The Vascular Plants of British Columbia

Part 2 - Dicotyledons
(Diapensiaceae through Portulacaceae)

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THE VASCULAR PLANTS OF BRITISH COLUMBIA

edited by

George W. Douglas, Gerald B. Straley and Del Meidinger

Part 2 - Dicotyledons (Diapensiaceae through Portulacaceae)

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and the Botanical Garden, University of British Columbia

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INTRODUCTION

This manual describes all of the flowering plants and vascular cryptogams, both native and naturalized, occurring within the borders of British Columbia. Keys are included for all genera, species, subspecies and varieties.

Species not represented by a herbarium collection have been placed in an excluded list (see Appendix). Many of these were incorrectly assumed, by American authors, to range into Canada. These species were often taken up by Taylor and MacBryde (1977). We have also excluded species that are known from only a few collections taken more than 40 years ago.

FORMAT

The manual will be published in four parts -- Part 1 includes Gymnosperms and Dicotyledons (Aceraceae through Cucurbitaceae); Part 2 contains Dicotyledons (Diapensiaceae through Portulacaceae); Part 3 will include Dicotyledons (Primulaceae through Zygophyllaceae) and Pteridophytes; and Part 4 will include the Monocotyledons. We plan to publish all four parts as a single volume at sometime in the near future.

The floristic treatment is in alphabetical order by families, genera and species since most of our users may not be familiar with the more traditional "Englerian system". These users (e.g., foresters, wildlife specialists, park managers, amateur naturalists, students, etc.) often require specific information about a species. Thus we have attempted to include the most frequently required information. This includes the following:

Synonyms:

Synonyms are given only when there are references in major floristic treatments to a given species by another name or names.

Common Names:

A common name for each species is included. These are based mainly on names appearing most commonly in the Western North American literature.

Habitat and Moisture Regime:

A brief description of a species habitat preference, including moisture regime, is given. The latter uses a simple (wet - moist - mesic - dry) scale.

Vegetation Zones:

The elevational limits of a species are presented using vegetation zones. The zonal system used here, unlike some of the more localized zonation systems (Krajina 1965; Rowe 1959, 1972; Franklin and Dyrness 1973), has wide application in the northern hemisphere and differs only slightly from that proposed by Dansereau (1975) and Meusel *et al.* (1965) and recommended by Löve (1970) in a review of the subject. The montane zone includes all continuous forests in British Columbia except for the coastal lowlands and some islands which are included in the lowland zone. The upper forests in southern British Columbia, included by some local ecologists (e.g., Krajina 1965) in the subalpine zone, is considered the upper montane zone in this work. The subalpine zone is defined as that area above the montane zone and below the upper limit of conifers as an upright tree form (Douglas 1972). In the southern part of the province, subalpine vegetation consists of a meadow/tree-clump complex (Douglas 1971, 1972), while in the northern part of the province the subalpine zone is dominated by tall shrubs (mainly three- to four-metre *Salix*) and scattered trees (Douglas 1974, Krajina 1975). Above the subalpine zone is the alpine zone where trees occur only in krummholz (or dwarfed) form and the vegetation is extremely short (less than one metre) and commonly referred to as alpine tundra (Krajina 1969, Douglas 1972, Douglas and Bliss 1977). The steppe vegetation zone (Daubenmire 1970) occurs in the interior of the province and includes what is often referred to as sagebrush or grassland vegetation. The former occurs at lower elevations in the Thompson, Okanagan, Kootenay, Columbia, and Flathead River valleys in southern British Columbia while the latter includes parts of the Fraser and Thompson plateaus and upper Peace River drainage.

Abundance:

The abundance of a species is given by a general scale: rare - infrequent - frequent - common. The rare (R1 and R2), and some of the infrequent (R3 and R4) plants, are well documented (at least to the best of our knowledge) in Straley *et al.* (1985). Most of the common plants are also well known from numerous other sources. In a number of cases, however, limited collecting or research enabled us to make only general assumptions about the abundance of some of the infrequent or frequent species.

Range:

The general distribution of a species, both within and outside the province, is presented. Maps compiled at the Royal British Columbia Museum were extremely helpful. Abbreviations are as follows:

Alberta	AB	Maine	ME
British Columbia	BC	Maryland	MD
Manitoba	MB	Massachusetts	MA
New Brunswick	NB	Michigan	MI
Newfoundland	NF	Minnesota	MN
Northwest Territories	NT	Mississippi	MS
Nova Scotia	NS	Missouri	MO
Ontario	ON	Montana	MT
Prince Edward Island	PE	Nebraska	NE
Quebec	PQ	Nevada	NV
Saskatchewan	SK	New Hampshire	NH
Yukon	YT	New Jersey	NJ
		New Mexico	NM
Alabama	AL	New York	NY
Alaska	AK	North Carolina	NC
Arizona	AZ	North Dakota	ND
Arkansas	AR	Ohio	OH
California	CA	Oklahoma	OK
Colorado	CO	Oregon	OR
Connecticut	CT	Pennsylvania	PA
Delaware	DE	Rhode Island	RI
District of Columbia	DC	South Carolina	SC
Florida	FL	South Dakota	SD
Georgia	GA	Tennessee	TN
Hawaii	HI	Texas	TX
Idaho	ID	Utah	UT
Illinois	IL	Vermont	VT
Indiana	IN	Virginia	VA
Iowa	IA	Washington	WA
Kansas	KS	West Virginia	WV
Kentucky	KY	Wisconsin	WI
Louisiana	LA	Wyoming	WY
		Mexico	MX

Notes:

Specific items of importance or problems, especially those related to taxonomy and nomen-clature, are noted. If infraspecific taxa require recognition these are keyed here.

A complete floristic bibliography, arranged by families, is also appended for users wishing to study a species further. A glossary and key to families will appear in Part 4.

The absence of descriptions and illustrations, due to severe budget limitations, should not detract from the overall treatment. Descriptions and illustrations of most of British Columbia's plant species are available in a number of regional floras (Abrams 1923-1951; Ferris 1960; Hitchcock *et al.* 1955-1969) or in treatments of some British Columbian plant families (Brayshaw 1976, 1985, 1989; Douglas 1982, 1990, 1991; Szczawinski 1959, 1962; Taylor 1963, 1966, 1970, 1973, 1974a, 1974b, 1983). Additional descriptions for the remaining plants may be found in Argus (1973), Fernald (1950), Packer (1983), Porsild and Cody (1980), Tutin *et al.* (1964-1980) or Welsh (1974).

DATA BASE

The present manual is based on a wealth of regional publications dating back over a hundred years. In addition, most of the species (especially the rare and infrequent ones) have been examined in various Canadian/U.S. herbaria.

Historically, the floristic documentation of British Columbia's flowering plants and vascular cryptogams began with the enumeration of the extensive collections of J. Macoun (Macoun 1883-1890). This was soon followed by the botanical contributions of his son, J.M. Macoun (1889, 1894-1906). In 1915, the first provincial flora appeared (Henry 1915), treating the southern part of the province. A supplement to this work was later provided by Eastham (1947). The southern part of the province was also included in a treatment of Pacific Northwest vascular plants by Hitchcock *et al.* (1955-1969) - later edited and revised by Hitchcock and Cronquist (1973). During this same period several other major works also appeared. Boivin (1966-1967), after numerous visits to Canadian and American herbaria, produced a checklist of Canadian vascular plants. In his Flora of Alaska and Neighboring Territories, Hulten (1968) provided brief descriptions with range maps that, in many cases, included British Columbian species. Meanwhile, in a treatment of Queen Charlotte Island vascular plants, Calder and Taylor (1968) contributed one of the few floras dealing solely with British Columbia. British Columbia was again included in a regional flora of northwestern North America when Welsh (1974) treated the plants of northern British Columbia. A literature review by Taylor and MacBryde (1977), mainly of North American studies, resulted in a resource inventory of vascular plants. Unfortunately, this extensive review treated several hundred erroneous citations as valid records for the province. Recently, a modern Canadian flora was produced by Scoggan (1978-1979). Finally, all of the province's rare or infrequent plants were examined and verified in various Canadian herbaria by Straley *et al.* (1985).

In addition to the major works mentioned above, there have been numerous taxonomic, floristic and related research papers dealing with British Columbia's vascular plants. Many of these are cited in the floristic bibliography by Douglas *et al.* (1983) and many are specifically referenced in this manual.

TAXONOMIC CONCEPTS

Our view of species limits is a practical one. Therefore, species had to be readily characterized morphologically in order to produce keys usable by a variety of users. Many of the keys were newly constructed while others were adapted for our British Columbia plants from well-tested manuals.

Wherever possible, geographically separate, or largely separate, infraspecific taxa are treated at the subspecies level, while those with geographically sympatric ranges are treated at the varietal level. Since we have not made any nomenclatural changes associated with the production of the manual, this choice between subspecies and variety is not always possible. We have not used more than one infraspecific rank in this work for a single species. Taxa are not recognized at the forma level.

DIAPENSIACEAE

DIAPENSIA

***Diapensia lapponica* L.** (*D. obovata* [Fr. Schmidt] Nakai)
Diapensia
Habitat/Range: Mesic slopes in the alpine zone; rare in N BC; circumpolar, N to AK, YT and W NT, disjunct in E NA, Greenland, Iceland, N Eurasia.

DIPSACACEAE

1. Plants spiny and thistle-like; calyces cup-like, 4-angled or 4-lobed; receptacles chaffy . . . . *Dipsacus*
1. Plants not spiny; calyces with 5 or 8 bristle-teeth; receptacles hairy or chaffy.
    2. Calyces with 5 bristle-teeth; receptacles chaffy . . . . *Scabiosa*
    2. Calyces with 8 bristle-teeth; receptables more or less hairy, not chaffy . . . . *Knautia*

DIPSACUS

***Dipsacus fullonum* L.** (*D. sylvestris* Huds.)
Fuller's teasel
Habitat/Range: Moist fields, meadows and roadsides; rare in SW BC; introduced from Eurasia.

KNAUTIA

***Knautia arvensis* (L.) Coult.** (*Scabiosa arvensis* L.)
Field scabious
Habitat/Range: Dry roadsides and fields; infrequent in C BC; introduced from Eurasia.

SCABIOSA

***Scabiosa ochroleuca* L.**
Yellow scabious
Habitat/Range: Dry roadsides, waste places and fields; rare, known only from Victoria and the Gulf Islands; introduced from Eurasia.

DROSERACEAE

DROSERA

1. Leaf-blades rounded, usually broader than long, the petioles hairy . . . . *D. rotundifolia*
1. Leaf-blades linear to spatulate or narrowly obovate, much longer than broad, the petioles smooth . . . . *D. anglica*

Drosera anglica **Huds.**
Great sundew
Habitat/Range: Wet swamps, bogs and lakeshores in the lowland, steppe vegetation and montane zones; frequent in S BC, rare northward; circumpolar, N to AK, YT and NT, E to NF and S to MI, WI, ID, NV and N CA; Eurasia, Hawaii.

Drosera rotundifolia **L.**
Round-leaved sundew
Habitat/Range: Wet swamps, bogs and lakeshores in the lowland, steppe vegetation and montane zones; common along the coast, less frequent elsewhere in BC; circumpolar, N to AK, YT and NT, E to NF and S to MN, AL, FL, NV and CA; Greenland, Iceland, Eurasia.

ELAEAGNACEAE

1. Leaves alternate; fruits dry and mealy; stamens 4 . . . . *Elaeagnus*
1. Leaves opposite; fruits fleshy; stamens 8 . . . . *Shepherdia*

ELAEAGNUS

1. Shrubs or small trees to 8 m tall, sometimes thorny; young twigs brown; leaves linear to linear-lanceolate, not wavy-margined; plants rare, introduced . . . . *E. angustifolia*
1. Shrubs 1-4 m tall, unarmed; young twigs silvery; leaves lanceolate to oblanceolate, wavy-margined; plants frequent, native . . . . *E. commutata*

Elaeagnus angustifolia **L.**
Russian olive
Habitat/Range: Roadsides and waste places; rare horticultural escape in SC BC; introduced from Eurasia.

Elaeagnus commutata **Bernh. ex Rydb.**
Silverberry, or wolf-willow
Habitat/Range: Dry sites in the steppe vegetation and montane zones; frequent in BC east of the Coast-Cascade Mountains; N to AK, YT and NT, E to PQ and S to MN, ND and UT.

SHEPHERDIA

1. Leaves silvery above and below; young twigs silvery; plants thorny, rare . . . . *S. argentea*
1. Leaves green or nearly glabrous above, brownish below; young twigs not silvery; plants unarmed, common . . . . *S. canadensis*

Shepherdia argentea **(Pursh) Nutt.**
Thorny buffalo-berry
Habitat/Range: Mesic sites in the steppe vegetation and montane zones; rare in C and NE BC; E to MB and S to MN, KS, NM and CA.

Shepherdia canadensis **(L.) Nutt.**
Soopolallie, soapberry, or Canadian buffalo-berry
Habitat/Range: Mesic to dry sites in the lowland, steppe vegetation, montane and subalpine zones; common throughout BC except absent on the Queen Charlotte Islands, N Vancouver Island and adjacent N coast; N to AK, YT and NT, E to NF and S to OH, MN, SD, NM and OR.

ELATINACEAE

ELATINE

***Elatine rubella* Rydb.** (*E. triandra* auctt. non Schkuhr)
Three-flowered waterwort
Habitat/Range: Ditches, mudflats, shallow ponds and lake shores in the lowland zone; rare in extreme SW BC; E to NB and S to MO, VA, TX, NM, CO and CA.

EMPETRACEAE

EMPETRUM

***Empetrum nigrum* L.**
Crowberry
Habitat/Range: Bogs and moist meadows to dry, alpine fellfields and cliffs from the lowland to alpine zones; frequent throughout BC; circumpolar, N to AK, YT and NT, E to NF and S to NY, MN and N CA.

ERICACEAE

1. Plants without green leaves, saprophytic.
    2. Corollas lacking, calyces petal-like; flowers in terminal spike-like racemes, the bracts longer than the flowers; stems striped pink and white lengthwise, to 4 dm tall . . . . *Allotropa*
    2. Corollas present; flowers various, but usually surpassing the bracts; stems not striped.
        3. Flowers on recurved pedicels in elongate and open racemes; corollas urn-shaped; anthers awned at the base; plants 3-10 dm tall . . . . *Pterospora*
        3. Flowers not in elongate and open racemes; corollas not urn-shaped; anthers without awns; plants usually less than 3 dm tall.
            4. Flowers short-pedicelled in congested head-like racemes; corollas gamopetalous, the petals joined to over half their length . . . . *Hemitomes*
            4. Flowers nodding in terminal racemes, single to many; corollas polypetalous.
                5. Flowers solitary, curved to one side or drooping; plants waxy-white when fresh, drying black . . . . *Monotropa*
                5. Flowers several, in nodding terminal racemes; plants not waxy-white, usually yellowish to pinkish, drying brownish . . . . *Hypopitys*
1. Plants with green leaves, autophytic.
    6. Fruits dry capsules.
        7. Leaves less than 1 cm long, linear or scale-like.
            8. Sepals usually 4, brightly coloured and petal-like, much longer than the tube-shaped, deeply 4-lobed corollas; flowers sessile or nearly sessile in the axils of the upper leaves forming elongated, terminal, spike-like inflorescences . . . . *Calluna*
            8. Sepals 5, green, considerably shorter than the generally 5-lobed corollas; flowers not in spike-like inflorescences.

9. Leaves less than 5 mm long, either linear-oblong and alternate or scale-like and opposite; flowers solitary to several, generally white, and usually nodding on erect axillary or terminal pedicels; anthers awned, opening by a pair of terminal pores . . . . *Cassiope*

9. Leaves more than 5 mm long, linear to narrowly elliptic and revolute; flowers grouped in the axils of upper leaves forming few-flowered, terminal clusters, yellow, pink or red; anthers unawned.

10. Leaves mostly opposite, narrowly elliptic, 4-8 mm long; flowers erect with short pedicels; stamens 5; anthers opening lengthwise . . . . *Loiseleuria*

10. Leaves alternate, linear, 6-16 mm long; flowers spreading or nodding on slender pedicels; stamens usually 10; anthers opening by two terminal pores . . . . *Phyllodoce*

7. Leaves usually more than 1 cm long, not linear or scale-like.

11. Plants evergreen herbs, often somewhat woody; petals distinct their entire length.

12. Stems leafy; leaves elliptic to oblanceolate; flowers in corymbs; styles usually not visible . . . . *Chimaphila*

12. Stems scapose (somewhat leafy in *Orthilia*); leaves suborbicular (to elliptic in *Orthilia*); flowers single or in racemes; styles distinct.

13. Flowers solitary, waxy-white; petals broadly spreading . . . . *Moneses*

13. Flowers numerous, in racemes, greenish or white, pinkish or red; petals arching.

14. Inflorescence one-sided; corollas bell-shaped . . . . *Orthilia*

14. Inflorescence not one-sided; corollas generally spreading . . . . *Pyrola*

11. Plants evergreen and deciduous shrubs; petals connate or very slightly connate.

15. Plants deciduous shrubs with light green, thin leaves.

16. Flowers in terminal clusters on previous years' shoots; corollas urn- or bell-shaped, petals whitish or yellowish; leaves glandular-pubescent or lightly hairy.

17. Flowers 4-parted; corollas yellowish with reddish tinge, urn-shaped, to about 1 cm long; calyx lobes small, glandular-ciliate; leaves up to 6 cm, glandular-pubescent, ciliate on the margin . . . . *Menziesia*

17. Flowers 5-parted; corollas whitish, broadly bell-shaped, to 2 cm long; calyx lobes about half as long as corollas, spreading, usually pubescent with a mixture of fine puberulence, coarser gland-tipped hairs, and (at least near the tips) long, rusty, appressed hairs; leaves up to 8 cm long, sparsely covered with rusty hairs . . . . . . *Rhododendron (albiflorum)*

16. Flowers mostly solitary and terminal; corollas saucer-shaped, petals coppery-pink, spreading; leaves glabrous . . . . *Cladothamnus*

15. Plants evergreen shrubs with leathery, thick, often revolute leaves.

18. Petals distinct nearly to the base; leaves densely rusty tomentose to whitish-puberulent beneath . . . . *Ledum*

18. Petals joined, to half their length, or more; leaves glabrous, scaly, finely granular-puberulent, or loosely, rusty hairy beneath.

19. Flowers in one-sided terminal leafy racemes; corollas cylindric . . . . *Chamaedaphne*

19. Flowers in small terminal umbels or corymbs; corollas not cylindric.

    20. Leaves opposite; corollas saucer-shaped, each lobe with a pair of basal pouches in which the anthers fit when in bud . . . . *Kalmia*

    20. Leaves alternate; corollas not as above.

        21. Corollas urn-shaped, about 5 mm wide; anthers awned . . . . *Andromeda*

        21. Corollas bell-shaped, 10-50 mm wide; anthers unawned . . . . *Rhododendron*

6. Fruits a fleshy, mealy, or juicy berry.

22. Ovaries superior.

23. Trees; leaves 5-15 cm long; fruits many-seeded, with finely granular surface . . . . *Arbutus*

23. Trailing or erect shrubs; leaves up to 5 cm long; fruits mostly 5-seeded, with a smooth surface . . . . *Arctostaphylos*

22. Ovaries inferior, or appearing so.

24. Ovaries superior, but surrounded by fleshy, purplish black or whitish calyces when mature; prostrate or erect evergreen shrubs; fruits a pulpy pseudo-berry . . . . *Gaultheria*

24. Ovaries inferior; calyces not enlarged at maturity; prostrate or erect evergreen or deciduous shrubs; fruits a many-seeded berry.

25. Flowers solitary on slender, usually 2-bracted pedicels; corollas 4-parted, petals separate nearly to the base, sharply reflexed . . . . *Oxycoccus*

25. Flowers solitary or in racemes, short-pedicellate; corollas urn- or globe-shaped, the 4 or 5 ultimate lobes usually shorter than the tube . . . . *Vaccinium*

ALLOTROPA

Allotropa virgata **T.& G. ex A. Gray**

Candystick or sugarstick

Habitat/Range: Mesic forests in the lowland and montane zones; infrequent in extreme SW BC; S along coast to CA.

ANDROMEDA

Andromeda polifolia **L.**

Bog-rosemary

Habitat/Range: Wet sites (acid bogs and swamps) in the lowland and montane zones; frequent throughout BC; circumboreal, N to AK, E to C AB, and N PQ; Eurasia.

ARBUTUS

***Arbutus menziesii* Pursh**

Arbutus, madrone, or Pacific madrone

Habitat/Range: Dry sites in the lowland and montane zones; common in extreme SW BC; S to Baja CA.

ARCTOSTAPHYLOS

1. Leaves deciduous, thin, margins serrulate, conspicuously veined; branchlets glabrous; fruits juicy . . . . *A. alpina*
1. Leaves evergreen, leathery, margins entire, not conspicuously veined; branchlets pubescent; fruits dry and mealy.
   2. Low, creeping or depressed shrubs; leaves mostly less than 2.5 cm, obovate to spatulate, glabrous to puberulent, dark green above, paler below . . . . *A. uva-ursi*
   2. Erect or spreading shrubs, commonly over 1 m tall; leaves greater than 2.5 cm, finely grayish-puberulent, especially beneath . . . . *A. columbiana*

***Arctostaphylos alpina* (L.) Spreng.** (*A. rubra* [Rehd. & Wils.] Fern.= var. *rubra*)

Alpine bearberry

Habitat/Range: Mesic to dry sites in the montane to alpine zones; frequent in N BC, rare in SE BC; circumboreal, N to AK, E to N ON and PQ; Eurasia.

Notes: Two varieties are recognized in BC:

1. Fruits purplish-black; leaves ciliate toward base and on petioles . . . . var. *alpina*
1. Fruits scarlet; leaves not ciliate . . . . var. *rubra* (Rehd. & Wils.) Bean

***Arctostaphylos columbiana* Piper**

Hairy manzanita

Habitat/Range: Dry, rocky sites in lowland and montane zones; infrequent in extreme SW BC; S along the coast to CA.

Notes: Hybrids often occur between this species and *A. uva-ursi*, when the two grow together (*A.* x *media* Greene).

***Arctostaphylos uva-ursi* (L.) Spreng.** (*A. uva-ursi* ssp. *uva-ursi*, *A. uva-ursi* ssp. *adenotricha* [Fern. & Macbr.] Calder & Taylor, *A. uva-ursi* ssp. *stipitata* Packer & Denford, *A. uva-ursi* ssp. *longipilosa* Packer & Denford, *A. uva-ursi* ssp. *coactilis* [Fern. & Macbr.] Löve, Löve & Kapoor)

Kinnikinnick, common bearberry, mealberry, or sandberry

Habitat/Range: Dry sites in the lowland, montane and subalpine zones; common throughout BC; circumboreal, N to AK, E to NF and S to N CA, NM, MN, and VA; Eurasia.

Notes: Packer and Denford (1974) reviewed the present classification of infraspecific taxa, found it to be inadequate, and proposed that four subspecies and two varieties be recognized. Two of the subspecies are new taxa, not previously described. The taxa are based on the type of pubescence on the young branches and petioles, chromosome numbers, and phenolic compounds. All four subspecies occur in BC, but are not geographically distinct. More recently, Wells (1988) stated that, since the numerous interpopulational taxa were based on minute indument characters and were often found in the same populations, they were best treated at the taxonomic level of form. We have therefore decided not to recognize these taxa until further work is done on their taxonomy and distribution in BC.

CALLUNA

Calluna vulgaris **(L.) Hull**

Heather or Scotch heather

Habitat/Range: Bogs and waste places in the lowland zone; rare in SW BC; introduced from Europe.

CASSIOPE

1. Leaves flat above, alternate, and spreading; flowers usually terminal, solitary, and erect. . . . . *C. stelleriana*

1. Leaves deeply concave above, opposite, and appressed; flowers usually several, lateral or subterminal on the branches, and nodding.

    2. Leaves prominently grooved on the back . . . . *C. tetragona*

    2. Leaves not prominently grooved on the back.

        3. Leaves in four distinct rows, not scarious-margined; branches, including appressed leaves, about 4 mm in diameter . . . . *C. mertensiana*

        3. Leaves not in four distinct rows, scarious-margined; branches about 2 mm in diameter . . . . *C. lycopodioides*

Cassiope lycopodioides **(Pall.) D. Don** (*C. lycopodioides* ssp. *cristapilosa* Calder & Taylor)

Club-moss mountain-heather

Habitat/Range: Dry sites in the subalpine and alpine zones; infrequent in NW BC, rare on NE Vancouver Island; amphiberingian, N to AK; NE Asia.

Cassiope mertensiana **(Bong.) D. Don var. *mertensiana***

White or Mertens' mountain-heather or moss heather

Habitat/Range: Mesic to dry sites in the subalpine and alpine zones; common throughout BC, except rare on the Queen Charlotte Islands; N to AK, E to SW AB and MT, and S to CA and NV.

Notes: BC material is var. *mertensiana*, although some is transitional to the more southern var. *gracilis* (Piper) C.L. Hitchc.

Cassiope stelleriana **(Pall.) DC.**

Alaskan mountain-heather or moss heather

Habitat/Range: Moist to dry sites in the subalpine and alpine zones; frequent in W BC; amphiberingian, N to AK and SW YT, S to WA; E Siberia and Japan.

Cassiope tetragona **(L.) D. Don**

Four-angled mountain-heather

Habitat/Range: Moist to dry sites in the subalpine and alpine zones; frequent in BC in and E of the Coast-Cascade Mountains; circumpolar, N to AK, YT, and NT, E to N PQ, and S to WA and MT; Eurasia.

Notes: Two varieties are recognized in BC.

1. Flowers usually less than 5 (6) mm long, the pedicels generally less than twice the length of the subtending leaves . . . . var. *saximontana* (Small) C. L. Hitchc.

1. Flowers 6-10 mm long, the pedicels proportionately longer . . . . var. *tetragona*

CHAMAEDAPHNE

Chamaedaphne calyculata **(L.) Moench**
Leatherleaf or cassandra
Habitat/Range: Bogs and wet meadows in the montane zone; infrequent in NE BC; N to AK, YT, and NT, E to NF and NB, and S to C AB, C SK, S MB, IA, OH, and GA.

CHIMAPHILA

1. Flowers generally 1-3; anther filaments hairy on swollen portion of the base; leaves narrowly to broadly elliptic . . . . *C. menziesii*

1. Flowers usually more than 3; anther filaments ciliate on the swollen portion of the base; leaves narrowly to broadly oblanceolate . . . . *C. umbellata*

Chimaphila menziesii **(R. Br. ex D. Don) Spreng.**
Menzies' pipsissewa
Habitat/Range: Mesic forests in the montane zone; infrequent in SW BC, rare in SE BC; S to CA.

Chimaphila umbellata **(L.) Bart. ssp. *occidentalis* (Rydb.) Hult.**
Prince's pine or pipsissewa
Habitat/Range: Mesic to dry forests in the montane zone; common in S BC, infrequent northward; N to SE AK, E to C AB and SK, scattered to James Bay, ON, and S to CA, NM, CO.

CLADOTHAMNUS

Cladothamnus pyroliflorus **Bong.**
Copperbush
Habitat/Range: Moist to wet streambanks and meadows in the lowland to subalpine zones; common in BC west of the Coast-Cascade Mountains; N to S AK, S along coast to NW OR.

GAULTHERIA

1. Leaves less than 1 cm long, bristly beneath, with revolute margins; flowers 4-merous, less than 3 mm long; fruits white . . . . *G. hispidula*

1. Leaves more than 1 cm long, not bristly or with revolute margins; flowers usually 5-merous, greater than 3 mm long; fruits red or bluish-black.

    2. Flowers numerous in elongated terminal and subterminal racemes; corollas urn-shaped and hairy; calyces glandular-pilose; anthers awned with 4 slender apical awns; fruits bluish-black; leaves to 9 cm long, ovate to ovate-elliptic and sharply serrulate . . . . *G. shallon*

    2. Flowers solitary in the leaf axils; corollas bell-shaped and glabrous; calyces various; anthers awnless; fruits red or reddish; leaves to about 3 cm long.

        3. Calyces glabrous, about the same length as the corolla tubes; leaves generally oval, rounded or obtuse at apex, averaging less than 2 cm long; stems glabrous or finely puberulent . . . . *G. humifusa*

        3. Calyces covered with brownish-red hairs, about half the length of the corolla tubes; leaves ovate to subcordate, acute, averaging about 3 cm long; stems puberulent and brownish hairy . . . . *G. ovatifolia*

Gaultheria hispidula **(L.) Muhl. ex Bigelow** (*Chiogenes hispidula* [L.] T.& G.)

Creeping-snowberry

Habitat/Range: Moist forests and bogs in the montane zone; frequent in S BC east of the Coast-Cascade Mountains, infrequent northward; E to NF, and S to N ID, MN, PA, and NC.

Gaultheria humifusa **(Grah.) Rydb.**

Alpine-wintergreen

Habitat/Range: Moist streambanks and wet meadows in the subalpine and alpine zones; infrequent in S BC; E to S AB, and S to N CA and CO.

Gaultheria ovatifolia **A. Gray**

Western tea-berry or Oregon wintergreen

Habitat/Range: Moist forests and bogs in the montane and subalpine zones; frequent in S BC south of 52°N; S to N CA and ID.

Gaultheria shallon **Pursh**

Salal

Habitat/Range: Dry, mesic, and bog forests in the lowland and montane zones; common in W BC, rare in SE BC; N to SE AK and S along the coast to CA.

HEMITOMES

Hemitomes congestum **A. Gray**

Gnome-plant or cone-plant

Habitat/Range: Mesic forests in the montane zone; frequent in SW, rare in WC and SE BC; S to CA.

HYPOPITYS

Hypopitys monotropa **Crantz** (*Monotropa hypopitys* L.)

Pinesap

Habitat/Range: Mesic forests in the montane zone; frequent in S BC, infrequent northward to 57°N; circumboreal, N to SE AK, E to NF, and S to CA, MX, and FL; Europe.

KALMIA

Kalmia microphylla **(Hook.) Heller** (*K. microphylla* var. *microphylla*, *K. polifolia* Wang. ssp. *microphylla* [Hook.] Calder & Taylor, *K. polifolia* var. *microphylla* [Hook.] Rehd. = ssp. *microphylla*; *K. microphylla* var. *occidentalis* [Small] Ebinger, *K. occidentalis* Small = ssp. *occidentalis* [Small] Taylor & MacBryde)

Western bog-laurel or swamp laurel, or alpine laurel

Habitat/Range: Wet sites in the lowland, montane, subalpine and alpine zones; frequent throughout BC; N to AK, YT and NT, E to NW MB, and S to C CA, NV, UT, and CO.

Notes: Two subspecies are recognized in BC[1]:

1. Leaves oval to broadly elliptic, usually less than 2 cm long, and less than 2 times as long as broad; calyces less than 7 mm broad; plants occurring E of the Coast-Cascades Range in BC . . . . ssp. *microphylla*

1. Leaves lanceolate, usually 2.5 cm long or longer, and 2.5-4 times as long as broad; calyces more than 7 mm broad; plants of coastal BC . . ssp. *occidentalis* (Small) Taylor & MacBryde

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[1] Key adapted from Ebinger 1974.

LEDUM

1. Leaves elliptic to oval, the lower surface greenish or sometimes grayish with many small shining resin-granules, on petioles about 1 cm long . . . . *L. glandulosum*
1. Leaves linear to oblong, the underside densely rusty-tomentose, short-petioled to sessile.
   2. Leaves linear-oblong to oblong, to about 6 cm long; stamens 5-7, the filaments mostly glabrous . . . . *L. groenlandicum*
   2. Leaves linear to linear-oblong, less than 1.5 cm long; stamens usually 10, the filaments pubescent below the middle . . . . *L. palustre*

***Ledum glandulosum* Nutt.**
Trapper's tea, or glandular Labrador tea
Habitat/Range: Moist to wet meadows and forests in the montane to subalpine zones; frequent S of 52°N in BC east of the Coast-Cascade Mountains; E to SW AB, S to CA and N WY.

***Ledum groenlandicum* Oeder** (*L. palustre* ssp. *groenlandicum* [Oeder] Hult.)
Labrador tea
Habitat/Range: Moist to wet forests and bogs in the lowland and montane zones; common throughout BC; N to AK, E to NF, and S to OR, MN, PA, and NJ.

***Ledum palustre* L. ssp. *decumbens* (Ait.) Hult.** (*L. decumbens* [Ait.] Lodd. ex Steud., *L. palustre* var. *decumbens* Ait.)
Northern Labrador tea
Habitat/Range: Wet boggy sites in the montane zone; rare in extreme northern BC; circumpolar, N to AK, YT and NT, and E to Labr.; Eurasia.

LOISELEURIA

***Loiseleuria procumbens* (L.) Desv.**
Alpine-azalea
Habitat/Range: Bogs in the lowland and montane zones along the coast and dry sites in the alpine zone; frequent W of the Coast Mountains, infrequent in N and C BC; circumpolar, N to AK, YT, NT, E to NF and NS, and S to NW WA; Eurasia.

MENZIESIA

***Menziesia ferruginea* Sm.**
False azalea
Habitat/Range: Dry to wet forests in the montane and subalpine zones; common in W BC north to 57°N (ssp. *ferruginea*) and SE BC (ssp. *glabella*); N to AK and S YT, and S to N CA (ssp. *ferruginea*), E to W AB, and S to WY, E WA, and OR (ssp. *glabella*).
Notes: Two infraspecific entities are generally recognized.

1. Leaves apiculate or acute, with glandular hairs; calyces glandular-ciliate; ovaries glandular . . . . ssp. *ferruginea*
1. Leaves more rounded than acute, finely puberulent on both sides, less conspicuously pilose above and less glandular below; calyces usually puberulent as well as glandular-ciliate; ovaries finely puberulent and glandular-pilose . . . . ssp. *glabella* (A. Gray) Calder & Taylor

MONESES

Moneses uniflora (L.) A. Gray (*Pyrola uniflora* L.)

Single delight, or one-flowered wintergreen

Habitat/Range: Mesic forests in the montane zone; frequent throughout BC; circumpolar, N to AK, YT, and NT, E to NF and S to CA, NM, MN, and PA; Eurasia.

MONOTROPA

Monotropa uniflora L.

Indian-pipe

Habitat/Range: Mesic to moist forests in the lowland and montane zones; frequent in extreme SW, rare in C and SC BC; N to SE AK, E to NF, and S to CA, MX, and FL; Central America; Asia.

ORTHILIA

Orthilia secunda (L.) House (*Pyrola secunda* L.)

One-sided wintergreen

Habitat/Range: Dry to mesic forests in the lowland to subalpine zones; common throughout BC; circumboreal, N to AK, YT, and NT, E to NF and S to S CA, MX, SD, OH, and VA; Eurasia.

Notes: Two varieties occur in BC:

1. Racemes mostly more than 10-flowered; petals greenish yellow; leaves elliptic to ovate, acute, and lustrous . . . . var. *secunda*

1. Racemes usually 4- to 10-flowered; petals creamy white; leaves orbicular, obtuse, and hardly lustrous . . . . var. *obtusata* Turcz.

OXYCOCCUS

Oxycoccus oxycoccos (L.) MacM. (*Vaccinium oxycoccos* L., *V. microcarpum* [Turcz. ex Rupr.] Schmalhausen ex Busch, *O. microcarpus* Turcz. ex Rupr., *O. palustris* Pers., *O. quadripetalus* Gilib.)

Bog cranberry

Habitat/Range: Bogs in the lowland and montane zones; frequent throughout BC; circumboreal, N to AK, YT, and NT, E to NB and NS and S to OR, ID, and MN; Eurasia.

Notes: Many authors split this taxon into two or more species. Recent studies suggest that this is unwarranted (Vander Kloet 1983). For a discussion of the nomenclatural problems involved with this species see Adolphi (1987).

PHYLLODOCE

1. Corollas pink to rose-coloured, glabrous, and bell-shaped; sepals ovate to ovate-lanceolate, blunt, and without glands . . . . *P. empetriformis*

1. Corollas yellowish to greenish-white, glandular-hairy, and narrowly urn-shaped; sepals lanceolate, acute, and glandular-hairy . . . . *P. glanduliflora*

Phyllodoce empetriformis **(Sw.) D. Don**

Pink mountain-heather

Habitat/Range: Dry to moist open forests and meadows in the upper montane to alpine zones; frequent throughout BC except the NE and Queen Charlotte Islands; N to SE AK, YT, and NT, E to W AB, and S to CA, ID, and MT.

Notes: The hybrid between *P. empetriformis* and *P. glanduliflora* is known as *P.* x *intermedia* (Hook.) Camp, and is quite common where the two occur together. The hybrids generally have white to pale rose corollas, and other intermediate characters.

Phyllodoce glanduliflora **(Hook.) Cov.** (*P. aleutica* [Spreng.] Heller ssp. *glanduliflora* [Hook.] Hult.)

Yellow mountain-heather

Habitat/Range: Dry to moist open forest and heath in the upper montane to alpine zones; frequent throughout BC; N to SE AK, YT, and NT, E to W AB, and S to OR and WY.

PTEROSPORA

Pterospora andromedea **Nutt.**

Pinedrops

Habitat/Range: Dry to mesic forests in the lowland and montane zones; frequent in extreme S BC, rare northward along the coast and in C BC; N to AK, E to PQ and PE and S to CA, MX, MI, NY, and VT.

PYROLA

1. Styles 1-2 mm, straight or nearly so, without a collar or ring below the stigma; the stamens connivent; anthers without horns or tubes, opening by large terminal pores . . . . *P. minor*

1. Styles 3 mm long or more, bent to one side, often with a collar or ring below the stigma; the stamens not connivent; anthers generally opening by small pores at the tip or on the side of short apical tubes.

    2. Leaves dark green, veins mottled-white above, ovate to ovate-elliptic; petals yellowish- to greenish-white to purplish . . . . *P. picta*

    2. Leaves light to dark green, not mottled, shape various; petals cream to greenish-white to crimson.

        3. Leaves mostly spatulate or oblanceolate to rhombic-elliptic, tapering to an acute base, the blades to 6 cm long and not much more than half as broad as long (generally less than 2.5 cm wide); petals cream to greenish-white . . . . *P. dentata*

        3. Leaves broadly elliptic to orbicular, the blades up to 7 cm long and mostly well over half as broad as long, often rounded at the base; petals as above or pink to crimson.

            4. Sepals rounded or obtuse, not over 2 mm long; corollas greenish-white, the petals converging; anthers terminated in tubes up to 0.8 mm long; leaves generally 1-2.5 (3.5) cm long . . . . *P. chlorantha*

            4. Sepals lanceolate to ovate, acutish, up to 5 mm long; corollas creamy-white to reddish, the petals loosely spreading; tubes terminating the anthers very short or not present; leaves generally longer than 2.5 cm.

                5. Leaf blades broadly elliptic to obovate, thin, commonly longer than the petioles; petals white or creamy, more than four times as long as the sepals; bracts of raceme linear-lanceolate . . . . *P. elliptica*

5. Leaf blades rounded to cordate, firm and somewhat coriaceous, often shorter than the petioles; petals white to pink or crimson, not more than three times as long as the sepals; bracts of raceme lanceolate to ovate.

   6. Anthers bright yellow, at most 2.3 mm long, rounded at the base; petals mainly white to creamy white with dark veins, translucent, up to 11 mm long . . . . *P. grandiflora*

   6. Anthers deep purplish-red, to about 3.5 mm long, with a short abrupt point at the base; petals pink to crimson, about 7 mm long . . . . *P. asarifolia*

***Pyrola asarifolia* Michx.** (P. asarifolia var. bracteata [Hook.] Jep.)

Pink, large, or common pink wintergreen

Habitat/Range: Mesic to moist forests in the lowland to montane zones; common throughout BC, except Queen Charlotte Islands; N to AK, YT, and NT, E to NF, and S to OR, NM, MN, and NH; Asia.

Notes: Two varieties are commonly recognized:

1. Leaves cordate-based, orbicular to somewhat reniform, lustrous; sepals less than 3.5 mm long . . . . var. *asarifolia*

1. Leaves obovate, obovate-oblong, to orbicular, not cordate-based, lustreless or dull; sepals at least 3.5 mm long . . . . var. *purpurea* (Bunge) Fern.

***Pyrola chlorantha* Sw.** (*P. virens* Schweig. ex Schweig. & Koerte)

Green or greenish wintergreen

Habitat/Range: Dry to moist forests in the montane zone; common throughout BC east of the Coast-Cascade Mountains, infrequent westward; circumboreal, N to AK, YT, and NT, E to NF, and S to CA, AZ, SD, and PA; Eurasia.

***Pyrola dentata* Sm.** (*P. picta* ssp. *dentata* Piper)

Nootka wintergreen

Habitat/Range: Dry forests in the lowland and montane zones; rare in SW BC; S and E to CA, ID, MT and WY.

***Pyrola elliptica* Nutt.**

White wintergreen, or shinleaf

Habitat/Range: Dry to moist forests in the montane zone; rare in SW and C BC; E to NF, and S to NM, SD, and PA; Japan.

***Pyrola grandiflora* Radius**

Arctic wintergreen

Habitat/Range: Dry to wet sites in the montane, subalpine, and alpine zones ; infrequent in N BC; circumpolar, N to AK, YT, and NT and E to NF; N Eurasia.

***Pyrola minor* L.**

Lesser wintergreen

Habitat/Range: Mesic to moist forests in the montane zone; frequent throughout BC, except the Queen Charlotte Islands; N to AK, YT, and NT, E to NF and S to S CA, NM, MN, and MA.

***Pyrola picta* Sm.** (*P. aphylla* Sm.)

White-veined wintergreen

Habitat/Range: Dry to mesic forests in the lowland and montane zones; frequent in SW BC, infrequent in SE BC; E to SW AB, and S to CA and CO.

RHODODENDRON

1. Leaves thin, deciduous; corollas white . . . . *R. albiflorum*

1. Leaves thick and leathery, evergreen; corollas pink to purple.

  2. Corollas bright purple, about 1.5 cm broad; stems depressed and mat-forming; leaves elliptic, 1-2 cm long, covered with resin dots; plants of N BC . . . . *R. lapponicum*

  2. Corollas pink to rose-purple, more than 2.5 cm broad; stems erect, to 5 m tall; leaves oblong-elliptic, 8-20 cm long, glabrous; plants of SW BC . . . . *R. macrophyllum*

***Rhododendron albiflorum* Hook.**
White-flowered or white rhododendron
Habitat/Range: Dry to wet sites in the montane and subalpine zones; common in C and S BC; E to SW AB, and S to OR and W MT.

***Rhododendron lapponicum* (L.) Wahl.**
Lapland rosebay
Habitat/Range: Dry sites in the alpine zone; infrequent in extreme N BC; circumpolar, N to AK, YT, and NT, and E to NF; Eurasia.

***Rhododendron macrophyllum* D. Don ex G. Don**
Pacific or California rhododendron
Habitat/Range: Mesic to moist forests in the lowland and montane zones; locally frequent on the W slopes of the Cascade Mountains, rare on S Vancouver Island; S to N CA, and E to MT.

VACCINIUM

1. Leaves thick, evergreen and shiny on upper surface.

  2. Leaves sharply serrulate, narrowly to broadly ovate, acute, not revolute or dotted with glands; stems erect; flowers in axillary clusters; berries deep purplish-black . . . . *V. ovatum*

  2. Leaves entire, elliptic to obovate-oblong, rounded, revolute, sparsely dotted with erect black glands on the underside; stems mat-forming with creeping or trailing branches; flowers in terminal clusters; berries red . . . . *V. vitis-idaea*

1. Leaves thin, mostly deciduous and not shiny on upper surface.

  3. Branchlets pubescent; leaves, especially undersurface, softly pubescent; anthers awnless . . . . *V. myrtilloides*

  3. Branchlets and leaves glabrous or puberulent, but not pubescent; anthers with a pair of long horn-like awns.

    4. Berries generally bright red; branches strongly angled, green or yellow-green.

      5. Erect shrub, mostly 1-3 m tall; leaves 10-25 mm long, generally entire (juvenile growth sometimes serrulate) . . . . *V. parvifolium*

      5. Low-growing matted shrub, 1-3 dm tall; leaves 8-30 mm long, serrulate.

        6. Branches numerous and broom-like, fine, delicate, and glabrous to very finely-puberulent: leaves 8-15 mm long; berries bright red . . . . *V. scoparium*

        6. Branches few and not broom-like, coarse, thick, and usually puberulent; leaves 10-30 mm long; berries dark red to bluish . . . . *V. myrtillus*

    4. Berries generally blue to blackish; branches at most slightly angled, but then brownish or reddish.

7. Flowers in axillary clusters of 1-7; calyces deeply lobed, triangular, persistent in fruit; berries glaucous blue.
    8. Flowers 1-4 in clusters; leaves 1-3 cm long, strongly reticulate-veined beneath . . . . *V. uliginosum*
    8. Flowers 5-7 in clusters; leaves generally more than 3 cm long, not strongly reticulate-veined beneath . . . . *V. corymbosum*
7. Flowers borne singly in leaf axils; calyces shallowly lobed, rounded, and deciduous; berries various.
    9. Plants 2-3 dm tall; berries 5-8 mm thick; leaves somewhat serrate above midlength.
        10. Leaves obovate, 1.5-5 (6) cm long, glaucous beneath, and serrulate from the tip to half or two-thirds of the length; corollas subglobose, 6-7 mm long . . . . *V. deliciosum*
        10. Leaves oblanceolate, 1-3 cm long, bright green on both sides, strongly reticulate beneath, serrulate from the tip to about half the length; corollas narrowly urn-shaped, 5-6 mm long . . . . *V. caespitosum*
    9. Plants 4-20 dm tall; berries 6-10 mm thick; leaves entire or serrate to below midlength.
        11. Leaves sharply serrulate nearly the entire length.
            12. Leaves mostly ovate or ovate-oblong, gradually acute to acuminate at apex, 2-5 cm long, not glaucous; berries reddish-purple or purple, 7-9 mm thick; corollas longer than broad . . . . *V. membranaceum*
            12. Leaves oblong-obovate, rounded to abruptly acute at the apex, 2-4 (5) cm long, glaucous; berries bluish-purple, 6-8 mm thick; corollas as broad as long . . . . *V. globulare*
        11. Leaves entire or lighty serrulate, most or all serrulations on basal half.
            13. Flowers appearing with the leaves; corollas bronzy-pink, usually broader than long; pedicels 10-15 mm in fruit, slightly curved to straight; leaves often puberulent beneath, with scattered glandular hairs along the underside midrib, ovate-elliptic to elliptic-obovate, 2.5-6 cm long . . . . *V. alaskaense*
            13. Flowers appearing before the leaves; corollas pink, usually longer than broad; pedicels about 5 (-8) mm in fruit, strongly recurved; leaves glabrous, not glandular along the underside midrib, ovate-elliptic, 2-4 (5) cm long . . . . *V. ovalifolium*

***Vaccinium alaskaense* Howell**

Alaskan blueberry

Habitat/Range: Dry to moist forests in the lowland, montane, and subalpine zones; common along the coast of BC, rare E of the Coast-Cascade Mountains; N to S AK and S to NW OR.

***Vaccinium caespitosum* Michx.**

Dwarf blueberry or bilberry

Habitat/Range: Moist to wet sites in the montane to alpine zones; common throughout BC; N to AK, YT, and NT, E to NF, and S to CA, CO, MN, and NY.

Notes: A variable species sometimes separated into two or more varieties.

Vaccinium corymbosum **L.**
Highbush blueberry
Habitat/Range: Boggy areas in the lowland zone; rare in the lower mainland of SW BC; introduced from eastern North America.

Vaccinium deliciosum **Piper**
Blue-leaved or Cascade huckleberry, or Cascade blueberry
Habitat/Range: Mesic to moist sites in the montane to alpine zones; infrequent in extreme SW and SC BC; S to N OR.

Vaccinium globulare **Rydb.** (*V. membranaceum* var. *rigidum* [Hook.] Fern.)
Blue or globe huckleberry
Habitat/Range: Dry to mesic forests in the montane zone; frequent in extreme SE BC; E to AB and S to OR and WY.

Vaccinium membranaceum **Dougl. ex Hook.**
Black huckleberry or blueberry
Habitat/Range: Dry to moist forests in the montane and subalpine zones; common throughout BC, except on the Queen Charlotte Island[illegible] to SE YT, E to AB, and S to ID, MT, and N CA.

Vaccinium myrtilloides **Michx.**
Velvet-leaved blueberry
Habitat/Range: Dry to mesic forests in the montane zone; frequent in C and SE BC, infrequent in NE BC; N to NT, E to NF, and S to MT, IA, and VA.

Vaccinium myrtillus **L.**
Low or dwarf bilberry
Habitat/Range: Dry to mesic forests in the montane zone; frequent in SE BC; circumpolar, E to SW AB, and S to NM; Eurasia.

Vaccinium ovalifolium **Sm.**
Oval-leaved blueberry
Habitat/Range: Mesic to moist forests in the montane zone; common throughout C and S BC; amphiberingian, N to AK and S YT, disjunct to ON, MI, PQ, NF, and NS, and S to OR and MT; E Asia.

Vaccinium ovatum **Pursh**
Evergreen huckleberry
Habitat/Range: Dry to mesic forests in the lowland and montane zones; frequent in SW BC, rare near Prince Rupert; S to S CA.

Vaccinium parvifolium **Sm. in Rees**
Red huckleberry
Habitat/Range: Dry to moist forests in the lowland and montane zones; common in W BC, mainly west of the Coast-Cascade Mountains, rare in SE BC; N to SE AK and S to CA.

Vaccinium scoparium **Leib.**
Grouseberry
Habitat/Range: Dry to moist forests in the montane to alpine zones; common in SE and SC BC, infrequent in NC BC; E to SW AB, and S to N CA, CO, and SD.

Vaccinium uliginosum **L.** (*V. uliginosum* ssp. *alpinum* [Bigel.] Hult., *V. uliginosum* vars. *alpinum* Bigel. and *langeanum* Malte = ssp. *pubescens*, *V. occidentale* A. Gray and *V. salicinum* Cham. = ssp. *occidentale*)

Bog blueberry or bilberry

Habitat/Range: Dry to wet sites in the montane to alpine zones; frequent in coastal BC (ssp. *occidentale*), and in N BC (ssp. *pubescens*); circumboreal, N to AK, YT, and NT, E to NF and S to N MI, NY, and N CA; Eurasia.

Notes: Two subspecies are recognized in BC:

1. Leaves pubescent . . . . ssp. *pubescens* (Wormsk.) Young

1. Leaves glabrous or sparsely puberulent . . . . ssp. *occidentale* (A. Gray) Hult.

Vaccinium vitis-idaea **L. ssp. *minus* (Lodd.) Hult.**

Lingonberry, or rock or mountain cranberry

Habitat/Range: Wet to dry forests in the montane zone; common in N BC, infrequent along the coast to N Vancouver Island, rare in SE BC; circumboreal, N to AK, YT, and NT, E to NF and S to N MN and NH; Eurasia.

EUPHORBIACEAE

EUPHORBIA[2]

1. Plants prostrate or sometimes ascending; larger leaves usually less than 1.5 cm long; stipules well developed and usually persistent.

  2. Stems crisp-puberulent to pilose; ovaries and capsules pubescent . . . . *E. supina*

  2. Stems glabrous; ovaries and capsules glabrous.

    3. Seeds slightly pitted and with short cross-ribs; involucres campanulate . . . . *E. serpyllifolia*

    3. Seeds with 5 or 6 elongate cross-ribs; involucres turbinate . . . . *E. glyptosperma*

1. Plants erect; larger leaves usually over 1.5 cm long; stipules usually absent.

  4. Lower stem leaves opposite . . . . *E. lathyris*

  4. Lower stem leaves alternate.

    5. Plants perennials; seeds smooth; lower leaves entire, linear to oblong.

      6. Lower leaves linear, 1-3 mm wide; plants usually less than 3 dm tall . . . *E. cyparissias*

      6. Lower leaves oblong, 3-8 mm wide; plants usually over 4 dm tall . . . . *E. esula*

    5. Plants annuals; seeds smooth, pitted or tuberculate; lower leaves entire to serrulate, not linear or oblong.

      7. Leaves serrulate; capsules smooth . . . . *E. helioscopia*

      7. Leaves entire; capsules pitted or tuberculate.

        8. Seeds tuberculate; leaves linear-lanceolate . . . . *E. exigua*

        8. Seeds pitted; leaves ovate or rhombic-ovate . . . . *E. peplus*

Euphorbia cyparissias **L.**

Cypress spurge

Habitat/Range: Roadsides, fields and waste places; rare in SW BC; introduced from Eurasia.

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[2] Key adapted from Hitchcock *et al.* (1961).

Euphorbia esula **L.** (*E. virgata* Waldst. & Kit.)
Leafy spurge
Habitat/Range: Roadsides, fields and waste places; frequent in SC BC, less frequent eastward in S BC; introduced from Eurasia.

Euphorbia exigua **L.**
Dwarf spurge
Habitat/Range: Roadsides and waste places; rare in the Victoria area; introduced from Europe.

Euphorbia glyptosperma **Engelm.** (*Chamaesyce glyptosperma* [Engelm.] Small)
Corrugate-seeded spurge
Habitat/Range: Dry, open sites in the lowland, steppe vegetation and montane zones; frequent in SC BC, less frequent in SW and SE BC; E to PQ and NB; S to MO, OH, TX, CA and MX.

Euphorbia helioscopia **L.**
Summer spurge
Habitat/Range: Roadsides, fields and waste places; rare in the SW BC and SE BC; introduced from Eurasia.

Euphorbia lathyris **L.**
Caper spurge
Habitat/Range: Roadsides and waste places; rare garden escape in the Victoria area; introduced from Europe.

Euphorbia peplus **L.**
Petty spurge
Habitat/Range: Disturbed sites and waste places; locally frequent on SE Vancouver Island and the Gulf Islands, rare in the lower Fraser Valley and SC BC; introduced from Eurasia.

Euphorbia serpyllifolia **Pers.** (*Chamaesyce serpyllifolia* [Pers.] Small)
Thyme-leaved spurge
Habitat/Range: Dry, sandy or gravelly sites in the lowland and steppe vegetation zones; rare on S Vancouver Island and SC BC; E to MB and S to MO, TX, NM, CA and MX.

Euphorbia supina **Raf.** (*Chamaesyce supina* [Raf.] Moldenke)
Milk spurge
Habitat/Range: Dry, disturbed sites and waste places; rare on SE Vancouver Island and adjacent lower mainland; introduced from the S U.S.

FABACEAE

1. Plants trees or shrubs.
    2. Leaves inconspicuous or absent; plants armed shrubs . . . . *Ulex*
    2. Leaves conspicuous, compound; plants unarmed shrubs, or if armed, then trees.
        3. Plants trees; flowers white or yellow.
            4. Leaves pinnately compound; plants armed; flowers white . . . . *Robinia*
            4. Leaves trifoliate; plants unarmed; flowers yellow . . . . *Laburnum*
        3. Plants shrubs; flowers yellow.
            5. Leaflets 3; pods glabrous except along the villous margins; branches strongly angled . . . . *Cytisus*
            5. Leaflets 5-11; pods pubescent; branches not angled . . . . *Lupinus* (*arboreus*)

1. Plants herbs, sometimes subshrubs.

6. Stamens distinct; leaves trifoliate; flowers yellow, racemose; pods several times as long as the calyx . . . . *Thermopsis*

6. Stamens more or less connate; leaves various but if trifoliate then flowers and pods not as above.

7. Fruits densely, hooked-prickly or with short, spiny teeth, not coiled.

8. Fruits densely, hooked-prickly; stems glandular . . . . *Glycyrrhiza*

8. Fruits with short, spiny teeth; stems sparsely strigose . . . . *Onobrychis*

7. Fruits without prickles or spines, if prickly or spiny, as in some *Medicago*, then the fruits coiled.

9. Leaves trifoliate, usually shallowly toothed; mature fruits either falcate or spirally coiled or more or less completely enclosed within the calyx.

10. Fruits falcate or spirally coiled, sometimes prickly or spiny . . . . *Medicago*

10. Fruits not falcate or spirally coiled, never prickly or spiny.

11. Flowers in long, narrow racemes; terminal leaflet stalked . . . . . . *Melilotus*

11. Flowers in heads or short spikes; terminal leaflets sessile or nearly so . . . . *Trifolium*

9. Leaves seldom trifoliate, but if so then the leaflets entire or the fruits elongate beyond the calyx and never falcate or coiled.

12. Leaves trifoliate or palmately compound.

13. Leaflets 3, glandular-dotted; fruits punctate . . . . *Psoralea*

13. Leaflets 5-17, not glandular-dotted; fruits not punctate . . . . *Lupinus*

12. Leaves pinnate.

14. Pods much constricted between the seeds, breaking crosswise; keels equal to or considerably exceeding the wings.

15. Flowers umbellate; petals strongly clawed; loments linear, 4-angled . . . . *Coronilla*

15. Flowers racemose; petals not strongly clawed; loments flattened . . . . *Hedysarum*

14. Pods not conspicuously constricted between the seeds, dehiscing lengthwise rather than breaking crosswide; keels usually shorter than the wings.

16. Leaves even-pinnate, the rachis prolonged as a slender bristle or a simple or branched tendril; plants often scandent.

17. Styles filiform, more or less equally hairy on all sides for about 1 mm below the tip . . . . *Vicia*

17. Styles flattened, hairy only on the inner side . . . . *Lathyrus*

16. Leaves odd-pinnate or at least with a terminal leaflet, the rachis not prolonged as a bristle or tendril; plants not scandent.

18. Flowers axillary, solitary or in small pedunculate heads or umbels; free portion of the filaments (sometimes only every other one) dilated and usually broader than the anthers . . . . *Lotus*

18. Flowers spicate or racemose; none of the filaments dilated.
    19. Keels of the corollas abruptly narrowed to a beaklike point; plants usually without leafy stems . . . . *Oxytropis*
    19. Keels of the corollas not abruptly beaked; plants usually with leafy stems . . . . *Astragalus*

ASTRAGALUS

1. Pubescence dolabriform (hairs 2-branched or pick-shaped, attached towards one end).
    2. Flowers 7-10 mm long; stems 1-6 cm tall . . . . *A. lotiflorus*
    2. Flowers 12-18 mm long; stems 10-80 cm tall.
        3. Flowers declined and retrorsely imbricated; stems 30-80 dm tall, arising singly or a few together from oblique or creeping rhizomes . . . . *A. canadensis*
        3. Flowers erect or ascending at a narrow angle; stems 10-40 dm tall, arising together from a superficial root crown or shortly forking caudex . . . . *A. adsurgens*
1. Pubescence, if any, of simple, basifixed hairs.
    4. Stipules at the lowest nodes (or at all nodes) clasping and joined opposite the petiole, or, if the lowermost nodes bladeless, then the stipules united around the stem as a low collar or sheath.
        5. Plants rushlike; leaflets linear, about as wide as the rachis; the terminal ones confluent with and not distinguishable from the rachis . . . . *A. convallarius*
        5. Plants not rushlike; leaflets usually wider than and always jointed to the rachis.
            6. Flowers erect, sessile to subsessile, closely crowded in ovoid heads; pods long-hirsute.
                7. Corollas purple, or if white, then purple-tinged; pods compressed . . . . *A. agrestis*
                7. Corollas white; pods inflated, ovoid to subglobose . . . . *A. cicer*
            6. Flowers spreading or pendulous, sessile to stipitate, if erect, then loosely racemose; pods glabrous to hairy.
                8. Pods curved into a semicircle; plants prostrate and of extreme NW BC . . . . *A. nutzotinensis*
                8. Pods straight, or nearly so; plant habit and distribution various.
                    9. Pods glabrous, strongly flattened . . . . *A. tenellus*
                    9. Pods hairy, inflated.
                        10. Keel petals 2.5-6 mm long.
                            11. Immature pods usually bearing some black or grey-brown hairs, mature pods strongly compressed . . . . *A. eucosmus*
                            11. Immature pods glabrous or with white hairs, mature pods inflated . . . . *A. microcystis*
                        10. Keel petals over 6 mm long.
                            12. Ovaries and pods with (at least some) black hairs.
                                13. Stems 2.5-6.5 dm long; larger leaflets 1-2 cm long; pods 15-26 mm long . . . . *A. robbinsii*

13. Stems 0.5-3.5 dm long; larger leaflets about 1 cm long; pods 8-16 mm long.

14. Stems prostrate or weakly ascending, rarely erect; leaflets rounded, often retuse; pods 8-12 mm long, the lower suture deeply sulcate . . . . *A. alpinus*

14. Stems erect or sometimes slightly decumbent; leaflets more or less acute; pods 12-16 mm long, the lower suture not sulcate . . . . *A. bourgovii*

12. Ovaries and pods glabrous or with white hairs.

15. Stems erect, 3-9 dm long; pods stipitate, hairy . . . . . *A. filipes*

15. Stems prostrate to erect, 1-5 dm long; pods sessile, glabrous or hairy . . . . *A. miser*

4. Stipules petiolar or petiolar-cauline, variably decurrent or clasping the stem but not joined opposite the petiole.

16. Cauline stipules 7-30 mm long, foliaceous, deflexed.

17. Stems 0.5-3 dm long; calyces sparsely black-hairy, without ciliate teeth; pods 15-20 mm long, black pilose . . . . *A. umbellatus*

17. Stems 3-10 dm long; calyces glabrous except for the ciliate teeth; pods 20-32 mm long, glabrous or rarely puberulent . . . . *A. americanus*

16. Cauline stipules 2-9 mm long, not foliaceous or deflexed.

18. Ovaries and pods stipitate.

19. Plants prostrate, rarely ascending; calyces glabrous or very sparsely black strigillose; pods curved . . . . *A. beckwithii*

19. Plants spreading to erect; calyces puberulent or black to greyish strigillose; pods curved or straight.

20. Pods curved, 20-30 mm long; stipes 15-20 mm long; calyces black to greyish strigillose . . . . *A. sclerocarpus*

20. Pods straight, 7-25 mm long; stipes 5-15 mm long; calyces puberulent . . . . *A. collinus*

18. Ovaries and pods sessile or subsessile.

21. Pods glabrous, fleshy, subglobose . . . . *A. crassicarpus*

21. Pods pubescent, not fleshy, straight or curved.

22. Pods 8-12 mm long, straight, subsessile; stems 3-7 dm long, erect . . . . *A. eucosmus*

22. Pods 10-30 (or rarely 40) mm long, nearly straight to slightly curved or arcuate, sessile; stems 0.5-4 dm long, prostrate or decumbent to erect, if erect then pods arcuate.

23. Stems 0.5-1 dm long, prostrate; leaves greyish-woolly; pods greyish-woolly . . . . *A. purshii*

23. Stems 1-4 dm long, decumbent to erect, leaves usually glabrous, at least above; pods strigillose . . . . *A. lentiginosus*

***Astragalus aboriginum* Richards. In Frankl.** (*A. australis* [L.] Lam.)
Indian milk-vetch
Habitat/Range: Mesic to dry sites from the steppe vegetation to alpine zones; infrequent in extreme E BC; circumpolar, N to AK, YT and NT, E to PQ and S to CO, UT, NV and OR; Eurasia.

***Astragalus adsurgens* Pallas ssp. *robustior* (Hook.) Welsh** (*A. striatus* Nutt.)
Standing milk-vetch
Habitat/Range: Mesic to dry sites in the steppe vegetation and montane zones; infrequent in E BC; amphiberingian, N to YT, E to ON and S to MN, NM and WA; E Asia.

***Astragalus agrestis* Dougl. ex D. Don** (*A. dasyglottis* Fisch. ex DC.)
Field milk-vetch
Habitat/Range: Moist to mesic meadows in the steppe vegetation and montane zones; common in S BC east of the Coast-Cascade Mountains and S of 52°N, rare northward; N to YT, E to ON, and S to WI, MN, KS, NM and N CA.

***Astragalus alpinus* L.** (*A. alpinus* ssp. *alaskanus* Hult., *A. alpinus* ssp. *arcticus* [Bunge] Hult.)
Alpine milk-vetch
Habitat/Range: Moist to mesic sites in the montane to alpine zones; common in BC east of the Coast-Cascade Mountains; N to AK, YT and NT, E to NF and S to ID, MT, NM, NV, WA and NE OR.

***Astragalus americanus* (Hook.) M.E. Jones**
American milk-vetch
Habitat/Range: Moist to mesic meadows and forest openings in the montane and steppe vegetation zones; common in BC east of the Coast-Cascade Mountains; N to AK, YT and NT, E to PQ and S to SD, MT and CO.

***Astragalus beckwithii* T.& G. var. *weiserensis* M.E. Jones**
Weiser milk-vetch
Habitat/Range: Mesic to dry sites in the steppe vegetation zone; rare in SC BC; S to ID, UT, NV and NC WA.

***Astragalus bourgovii* A. Gray**
Bourgeau's milk-vetch
Habitat/Range: Mesic sites from the montane to alpine zones; rare in extreme SE BC; E to SW AB and S to ID and MT.

***Astragalus canadensis* L.**
Canada milk-vetch
Habitat/Range: Mesic to dry sites in the steppe vegetation and montane zones; common in NE BC (var. *canadensis*) and S BC east of the Coast-Cascade Mountains (vars. *brevidens* and *mortonii*); var. *canadensis* - N to NT, E to PQ and S to AR, VA, and TX, var. *brevidens* - S to SD, ND, CO and CA, var. *mortonii* - S to ID, MT and N WA.
Notes: Three varieties are recognized for BC. The two varieties in S BC are sympatric and freely intergrade.

1. Pods terete, not grooved dorsally and usually glabrous; plants of NE BC . . var. *canadensis*
1. Pods grooved dorsally and usually pubescent; plants of S BC.
    2. Calyces white- and black-hairy; the teeth subequal, 1.5-3 mm long; plants greenish, not silvery pubescent . . . . .var. *mortonii* (Nutt.) S. Wats.
    2. Calyces white-hairy, the teeth 1-2 mm long, the upper ones broader and shorter than the lower three; plants usually more or less silvery-pubescent . . . . var. *brevidens* (Gandog.) Barn.

Astragalus cicer **L.**
Chick-pea milk-vetch
Habitate/Range: Roadsides; rare, known only from Coquitlam and Williams Lake; introduced from Eurasia.

Astragalus collinus **(Dougl. ex Hook.) G. Don**
Hillside or hill milk-vetch
Habitat/Range: Dry sites in the steppe vegetation and lower montane zones; locally common in SC BC; S to ID and NE OR.

Astragalus convallarius **Greene**
Lesser rusty milk-vetch
Habitat/Range: Dry sites in the steppe vegetation zone; rare in SC BC; S to ID, MT, WY and UT.

Astragalus crassicarpus **Nutt.**
Ground or buffalo plum
Habitat/Range: Dry sites in the steppe vegetation and montane zones; rare in SE BC, known only from Crowsnest Pass; E to SK and S to MO, TN, TX, MT, AZ and NM.

Astragalus eucosmus **B.L. Robins.**
Elegant milk-vetch
Habitat/Range: Moist to mesic sites in the montane and lower subalpine zones; infrequent in BC east of the Coast-Cascade Mountains; N to AK, YT and NT, E to NF and S to MT and CO.

Astragalus filipes **Torr.**
Threadstalk milk-vetch
Habitat/Range: Dry sites in the steppe vegetation zone; rare in SC BC; S to WA, NC OR and MX.

Astragalus lentiginosus **Dougl. ex Hook. var.** ***salinus*** **(Howell) Barn.**
Freckled milk-vetch
Habitat/Range: Dry sites from the steppe vegetation to subalpine zones; rare in SC BC; S to ID, WA and OR.

Astragalus lotiflorus **Hook.**
Lotus milk-vetch
Habitat/Range: Dry sites in the steppe vegetation zone; locally infrequent in SC BC; E to SK, S to MN, IA, TX and NM.

Astragalus microcystis **A. Gray**
Least bladdery milk-vetch
Habitat/Range: Dry sites in the steppe vegetation and lower montane zones; rare, known only from a few collections in extreme SE BC; S to ID, MT and WA.

Astragalus miser **Dougl. ex Hook.**
Timber milk-vetch
Habitat/Range: Mesic to dry sites from the steppe vegetation to lower alpine zones; common in BC S of 53°N and E of the Coast-Cascade Mountains, rare northward to 57°N; E to SW AB and S to C WA (var. *serotinus*) and S to ID, MT and NE WA (var. *miser*).
Notes: Two varieties occur in BC.

1. Leaflets equally pubescent on both sides, the herbage silvery or ash-colored; calyces 4.5-6 mm long; keels 8-10.5 mm long . . . . var. *miser*
1. Leaflets glabrous or glabrescent above, if pubescent then the flowers much smaller, calyces less than 4.0 mm long; keels 6-8 mm long . . . . var. *serotinus* (A. Gray) Barn.

***Astragalus nutzotinensis* Rouss.**

Nutzotin milk-vetch

Habitat/Range: Moist to mesic gravelly terraces or rock outcrops from the montane to alpine zones; rare in extreme NE BC; N to AK and YT.

***Astragalus purshii* Dougl. ex Hook.**

Woollypod milk-vetch

Habitat/Range: Dry sites in the steppe vegetation and lower montane zones; common in SC BC; E to AB and S to SD, ND, CO, NV and NE CA.

Notes: Two intergrading varieties of this highly variable species are recognized in BC.

1. Flowers ochroleucous or pale lavender, the keels purple-tipped; pods nearly straight . . . . var. *purshii*

1. Flowers reddish-purple; pods strongly sulcate . . . . var. *glareosus* (Dougl. ex Hook.) Barn.

***Astragalus robbinsii* (Oakes) A. Gray var. *minor* (Hook.) Barn.** (*A. macounii* Rydb., *A. robbinsii* var. *occidentalis* S. Wats.)

Robbins' milk-vetch

Habitat/Range: Moist to mesic meadows and forest openings in the steppe vegetation and montane zones, rarely to the alpine zone; frequent in BC S of 52°N and east of the Coast-Cascade Mountains; N to AK, YT and NT, E to SW AB and S to CO, NV and N WA.

***Astragalus sclerocarpus* A. Gray**

The Dalles milk-vetch

Habitat/Range: Dry sites in the steppe vegetation and lower montane zones; rare in SC BC, known only from Summerland and Kaledon; S to WA and NE OR.

***Astragalus tenellus* Pursh**

Pulse milk-vetch

Habitat/Range: Mesic to dry sites from the steppe vegetation to lower subalpine zones; common in BC south of 57°N and east of the Coast-Cascade Mountains; N to S YT, E to MB and S to MN, NB, NM, NV and ID.

***Astragalus umbellatus* Bunge**

Tundra milk-vetch

Habitat/Range: Wet to moist sites from the montane to alpine zones; rare in extreme NW BC; amphiberingian, N to AK, YT and NT; E Asia.

CORONILLA

***Coronilla varia* L.**

Common crown-vetch

Habitat/Range: Roadsides and waste places; rare, scattered throughout S BC; introduced from Europe.

CYTISUS

***Cytisus scoparius* (L.) Link**

Scotch or Scots broom

Habitat/Range: Dry to mesic, often disturbed, sites in the lowland and lower montane zones; locally common in extreme SW BC west of the Coast-Cascade Mountains; introduced from Europe.

GLYCYRRHIZA

Glycyrrhiza lepidota **(Nutt.) Pursh var. *glutinosa* (Nutt.) S. Wats.**
Wild licorice
Habitat/Range: Moist to wet fields and streambanks in the steppe vegetation and lower montane zones; rare in extreme SE BC; S to MT, and CA.

HEDYSARUM

1. Flowers yellow to whitish . . . . *H. sulphurescens*

1. Flowers pink to purplish (rarely white).

    2. Upper calyx lobes slender, subequal to the lower ones; wing auricles broad, much shorter than the claw; pods corrugated with transversely elongated reticulations . . . . *H. boreale*

    2. Upper calyx lobes distinctly shorter than the lower ones; wing auricles linear, nearly equal to the claw; pods not strongly corrugated, reticulations regular, not elongated.

        3. Pods 7-12 mm wide, margins winged, these 1-2 mm wide; plants rare on N Vancouver Island . . . . *H. occidentale*

        3. Pods 3-7 mm wide, margins winged, these 1 mm wide or less; plants common in N BC, less frequent southward east of the Coast-Cascade Mountains . . . . *H. alpinum*

Hedysarum alpinum **L.** (*H. americanum* [Michx.] Britt.)
Alpine hedysarum or sweet-vetch
Habitat/Range: Moist to mesic sites in the subalpine and alpine zones; common in N BC, rare southward in BC east of the Coast-Cascade Mountains; amphiberingian, N to AK, YT and NT, E to NF and S to ME, UT, SD and WY.
Notes: Some North American taxonomists have recognized populations with smaller stature and larger flowers as *H. hedysaroides* (L.) Schinz & Thell., a Eurasian species. These plants, however, appear to be merely a phase of the variable *H. alpinum* complex. They are probably best recognized as *H. alpinum* var. *grandiflorum* Rollins, if a name is required.

Hedysarum boreale **Nutt.** (*H. mackenzii* Richards. = ssp. *mackenzii*)
Northern hedysarum or sweet-vetch
Habitat/Range: Mesic sites from the montane to lower alpine zones; ssp. *mackenzii* - common throughout BC in and east of the Coast-Cascade Mountains, ssp. *boreale* - rare in SE BC; ssp. *mackenzii* - amphiberingian, N to AK, YT and NT, E to N PQ and S to OR, ssp. *boreale* - S to ND, OK, AZ, NM, and NV.
Notes: Two intergrading subspecies are recognized in BC.[3]

1. Flowers usually 10-19 mm in length, pink to purple; racemes 8-23 cm long . . . ssp. *boreale*

1. Flowers usually 15-25 mm in length, usually purple; racemes compact, usually 2-10 cm long . . . . ssp. *mackenzii* (Richards.) Welsh

Hedysarum occidentale **Greene**
Western hedysarum or sweet-vetch
Habitat/Range: Mesic to moist sites in the subalpine and alpine zones; rare, known only from N and C Vancouver Island; S to ID, MT, CO and N WA.

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[3] Key adapted from Northstrom and Welsh (1970).

Hedysarum sulphurescens **Rydb.**

Yellow or sulphur hedysarum or sweet-vetch

Habitat/Range: Mesic to dry sites in the steppe vegetation and montane zones; locally common in SE BC, infrequent in the Peace River region; E to SW AB and S to MT, WY and NC WA.

LABURNUM

Laburnum anagyroides **Medic.**

Laburnum, or golden chain tree

Habitat/Range: Edges of forests, roadsides, waste places and fields in the lowland zone; rare garden escape in the lower mainland, S Vancouver Island; introduced from Europe.

LATHYRUS[4]

1. Leaflets 2; plants introduced annuals or perennials.

2. Flowers yellow; plants perennials . . . . *L. pratensis*

2. Flowers orange, red or pinkish-red (sometimes white or striped); plants annuals or perennials.

3. Flowers orange, 1 per peduncle; plants annuals . . . . *L. sphaericus*

3. Flowers red (sometimes white or striped), 4-15 per peduncle; plants perennials.

4. Pods 6-10 cm long, 7-10 mm wide; stipules 3-5 cm long, ovate to broadly lanceolate; flowers 15-20 mm long, white to red . . . . *L. latifolius*

4. Pods 4-6 cm long, 4-6 mm wide; stipules 1-3 cm long, linear-lanceolate; flowers about 15 mm long, red . . . . *L. sylvestris*

1. Leaflets, or at least some of them, 4; plants native perennials.

5. Tendrils lacking, usually represented only by a terminal, simple, nonprehensile bristle.

6. Plants densely long-hairy throughout; plants of coastal BC . . . . *L. littoralis*

6. Plants glabrous to sparsely short-hairy; plants of SE BC . . . . *L. bijugatus*

5. Tendrils present, usually well developed, either branched or prehensile.

7. Stems winged . . . . *L. palustris*

7. Stems not winged.

8. Stipules subequal to slightly longer than the leaflets . . . . *L. japonicus*

8. Stipules 2/3 the length of the leaflets, or less.

9. Flowers bluish to reddish-purple; stipules lanceolate to linear-lanceolate, 2-lobed . . . . *L. nevadensis*

9. Flowers white or cream to ochroleucous; stipules ovate to ovate-lanceolate, not 2-lobed . . . . *L. ochroleucus*

Lathyrus bijugatus **White**

Pinewood peavine

Habitat/Range: Dry sites in the steppe vegetation and lower montane zone; rare, known only from Elko in SE BC; S to ID and E WA.

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[4] Key adapted from Hitchcock (1952).

Lathyrus japonicus **Willd. var.** ***glaber*** **(Ser.) Fern.**

Beach pea

Habitat/Range: Gravelly or sandy sites in the lowland zone; common in coastal BC; N to AK, E to NF and S to N CA.

Lathyrus latifolius **L.**

Broad-leaved peavine

Habitat/Range: Roadsides and waste places; infrequent garden escape on SE Vancouver Island, the Gulf Islands and lower mainland; introduced from Europe.

Lathyrus littoralis **(Nutt.) Endl.**

Grey beach peavine

Habitat/Range: Sandy coastal sites; rare on the Queen Charlotte Islands and Vancouver Island; S to N CA.

Lathyrus nevadensis **S. Wats. var.** ***pilosellus*** **(Peck) C.L. Hitchc.** (*L. nevadensis* ssp. *lanceolatus* [Howell] C.L. Hitchc. var. *pilosellus* [Peck] C.L. Hitchc.)

Purple peavine

Habitat/Range: Mesic forest openings in the lowland and montane zones; common in BC south of 56°N, except absent on the Queen Charlotte Islands, N Vancouver Island and the adjacent coast; S to CA.

Lathyrus ochroleucus **Hook.**

Creamy or cream-flowered peavine

Habitat/Range: Moist to mesic sites in the montane zone; common in BC east of the Coast-Cascade Mountains; N to NT, E to PQ and S to OH, PA, VT, SD, WY and NE WA.

Lathyrus palustris **L.**

Marsh peavine

Habitat/Range: Wet marshes and tidelands in the lowland zone; rare in coastal BC; N to AK and S to N CA.

Lathyrus pratensis **L.**

Meadow peavine

Habitat/Range: Meadows, roadsides and disturbed areas; rare garden escape scattered through S BC; introduced from Eurasia.

Lathyrus sphaericus **Retz.**

Grass peavine

Habitat/Range: Dry meadows in the lowland zone; rare, but well established in open *Quercus garryana* stands near Duncan; introduced from Eurasia.

Lathyrus sylvestris **L.**

Narrow-leaved everlasting peavine

Habitat/Range: Roadsides and waste places; locally frequent garden escape in extreme SW BC; introduced from Eurasia.

LOTUS[5]

1. Plants annuals; stipules reduced to blackish glands; flowers 1-3, subsessile or short-pedunculate in the leaf axils.

    2. Flowers subsessile in the leaf axils; pods 8-15 mm long, 3-4 mm wide, not constricted between the seeds . . . . *L. denticulatus*

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[5] Key adapted from Hitchcock *et al.* (1961).

2. Flowers short-pedunculate in the leaf axils; pods 15-35 mm long, 1.5-2.5 mm wide, slightly to markedly constricted between the seeds.
    3. Leaflets 3 (rarely 4 or 5), 3-10 mm (rarely up to 15 mm) wide; calyx teeth usually over 2 mm long; pods slightly constricted between the seeds . . . . *L. purshianus*
    3. Leaflets 3-6, usually 2-3 mm (rarely 4 mm) wide; calyx teeth usually less than 1 mm long; pods markedly constricted between the seeds . . . . *L. micranthus*

1. Plants perennials; stipules often well developed; flowers in axillary pedunculate umbels, usually at least 3 per umbel.
    4. Leaves apparently sessile; leaflets 5, lowest pair basal and stipule-like; true stipules represented by small dark glands.
        5. Leaflets of upper leaves linear or linear-lanceolate, about 4 times as long as wide; flowers about 10 mm long . . . . *L. tenuis*
        5. Leaflets of upper leaves lanceolate to obovate, usually not more than 3 times as long as wide; flowers usually at least 15 mm long.
            6. Umbels 8-26-flowered; calyces usually ciliate with long hairs; leaflets usually more than 15 mm long . . . . *L. pedunculatus*
            6. Umbels 2-6-flowered; calyces entire or ciliate with short hairs; leaflets usually less than 10 mm long . . . . *L. corniculatus*
    4. Leaves petiolate; leaflets 3-15, lowest pair not basal on the petiole; stipules glandlike, blackish or, if foliaceous, different from the leaflets.
        7. Stipules glandlike, blackish; leaflets 5, sometimes 3-4; pods falcate, 1-3-seeded; plants of SC BC . . . . *L. nevadensis*
        7. Stipules foliaceous, dissimilar to the leaflets; leaflets 5-9, rarely 3, 4 or 6; pods elongate, 8-20-seeded; plants of SW BC.
            8. Bracts of the peduncle usually 3-foliate; banners yellow; wings pink to rose; keels purplish-tipped . . . . *L. formosissimus*
            8. Bracts of the peduncle absent or usually a mere tooth; all petals cream to yellowish, with little, if any pink . . . . *L. pinnatus*

***Lotus corniculatus* L.**
Birds-foot trefoil
Habitat/Range: Wet to moist roadsides, waste places and lawns; infrequent in S BC; introduced from Eurasia.

***Lotus denticulatus* (Drew) Greene**
Meadow birds-foot trefoil
Habitat/Range: Mesic, sandy sites in the lowland, steppe vegetation and lower montane zones; common in BC S of 55°N, except absent from the Queen Charlotte Islands, N Vancouver Island and adjacent coast; S to N CA.

***Lotus formosissimus* Greene**
Seaside birds-foot trefoil or lotus
Habitat/Range: Moist sites in the lowland zone; rare on S Vancouver Island and adjacent islands; S to C CA.

***Lotus micranthus* Benth.**
Small-flowered birds-foot trefoil
Habitat/Range: Moist to mesic, rocky or sandy sites in the lowland zone; locally frequent in extreme SW BC; S to CA.

***Lotus nevadensis* (S. Wats.) Greene var. *douglasii* (Greene) Ottley**
Nevada birds-foot trefoil, or deervetch
Habitat/Range: Dry sandy or rocky sites in the steppe vegetation and montane zones; rare in SC BC, known only from Spences Bridge; S to ID, NV and CA, possibly introduced.

***Lotus pedunculatus* Cav.**
Pedunculate birds-foot trefoil
Habitat/Range: Moist waste places; rare in extreme SW BC; introduced from Eurasia, N Africa.

***Lotus pinnatus* Hook.**
Bog birds-foot trefoil
Habitat/Range: Wet to moist sites in the montane zone; rare, known from only a single collection at Nanaimo; S to ID and CA.

***Lotus purshianus* (Benth.) Clem. & Clem.**
Spanish-clover
Habitat/Range: Wet to moist sites in the lowland zone; rare on SE Vancouver Island and the Gulf Islands; S to MN, MO, and N MX.

***Lotus tenuis* Waldst. & Kit.**
Narrow-leaved birds-foot trefoil
Habitat/Range: Dry, grassy sites; rare on S Vancouver Island and SC BC; introduced from Eurasia.

LUPINUS

1. Plants annuals.
    2. Ovules and seeds usually 2; cotyledons sessile, connate; petals white to yellowish-white . . . . *L. densiflorus*
    2. Ovules and seeds usually 4 or more; cotyledons petiolate, distinctly verticillate; petals bluish.
        3. Leaflets usually glabrous above, sometimes with a few scattered hairs; banners reflexed above the midpoint . . . . L. polycarpus
        3. Leaflets pubescent above; banners reflexed at the midpoint . . . . L. bicolor
1. Plants perennials.
    4. Banners conspicuously hairy over much of the abaxial (back) surface or the calyces spurred.
        5. Calyces spurred . . . . *L. arbustus*
        5. Calyces not spurred.
            6. Banners reflexed above the midpoint; pedicels 1.5-3 mm long; leaves and stems with heavy velvety indumentum . . . . *L. leucophyllus*
            6. Banners reflexed at the midpoint; pedicels 3.5-6 mm long; leaves and stems appressed silky or scabrous, not velvety . . . . *L. sericeus*
    4. Banners not conspicuously hairy on the back; calyces not spurred.
        7. Banners reflexed above the midpoint.

8. Basal leaves usually present at flowering time, their petioles 3-5 times longer than the leaflets and longer than those of the cauline leaves; flowers yellow or blue . . . . *L. sulphureus*

8. Basal leaves usually absent at flowering time, their petioles less than 3 times longer than the leaflets and equal to or shorter than the cauline leaves; flowers blue . . . . . . *L. argenteus*

7. Banners reflexed at the midpoint.

9. Flowers yellow; plants 1-2 m tall . . . . *L. arboreus*

9. Flowers blue, rarely white; plants less than 1 m tall.

10. Plants prostrate to decumbent, maritime; stems and petioles usually hirsute with rust-colored hairs . . . . *L. littoralis*

10. Plants ascending to erect, not strictly maritime; stems and petioles seldom hirsute with rust-colored hairs.

11. Leaflets usually amply pubescent above.

12. Plants subalpine or alpine, less than 10 cm tall; banners 7-9 mm long, obovate-oval . . . . *L. lyallii*

12. Plants not subalpine or alpine, more than 10 cm tall, if less, then the banners over 10 mm long and orbicular.

13. Keels glabrous or with only a few cilia along the upper edge towards the tip . . . . *L. kuschei*

13. Keels ciliate along all of the upper edge.

14. Upper calyx lips cleft for at least 1/2 their length . . . . *L. lepidus*

14. Upper calyx lips cleft for less than 1/3 their length . . . . *L. wyethii*

11. Leaflets usually glabrous above, sometimes sparsely pubescent.

15. Leaf petioles about the same length as the leaflets; stems not hollow . . *L. rivularis*

15. Leaf petioles 1.5-2 times as long as the leaflets; stems usually hollow.

16. Longest leaf petioles cauline, 2-12 cm long.

17. Leaflets usually shaggy villous below, rarely strigose; lower calyx lips broad, boat-shaped . . . . *L. nootkatensis*

17. Leaflets strigose to hispidulose or glabrous above; lower calyx lips slender, lanceolate . . . . *L. arcticus*

16. Longest leaf petioles basal, 9-60 cm long.

18. Plants 2-4 dm tall; stems usually branched . . . . *L. arcticus*

18. Plants 4-15 dm tall; stems usually unbranched . . . . *L. polyphyllus*

***Lupinus arboreus* Sims**

Tree lupine

Habitat/Range: Dry to mesic bluffs and disturbed sites; rare on SE Vancouver Island, the Gulf Islands and adjacent mainland; introduced from CA.

Lupinus arbustus **Dougl. ex Lindl.** (*L. laxiflorus* Dougl. ex Lindl. var. *pseudoparviflorus* [Rydb.] C.P. Smith = ssp. *pseudoparviflorus*)

Spurred, grassland (ssp. *neolaxiflorus*) or Montana (ssp. *pseudoparviflorus*) lupine

Habitat/Range: Dry sites in the steppe vegetation and lower montane zones (ssp. *neolaxiflorus*) and moist sites in the montane zone (ssp. *pseudoparviflorus*); both subspecies rare in extreme S BC east of the Coast-Cascade Mountains; S to MT and CA.

Notes: Two subspecies are recognized in BC.

1. Leaflets glabrous to glabrate above, oblanceolate, 6-10 mm wide . . . . ssp. *pseudoparviflorus* (Rydb.) Dunn
1. Leaflets pubescent above, sometimes only sparsely so, linear-elliptic to oblanceolate, usually less than 6 mm wide . . . . ssp. *neolaxiflorus* Dunn

Lupinus arcticus **S. Wats.** (*L. latifolius* J.G. Agardh var. *canadensis* C.P. Smith = ssp. *canadensis*, *L. latifolius* var. *subalpinus* [Piper & B.L. Robins.] C.P. Smith = ssp. *subalpinus*, *L. polyphyllus* ssp. *arcticus* [S. Wats.] Phillips = ssp. *arcticus*)

Arctic lupine

Habitat/Range: Moist to mesic sites in all vegetation zones; ssp. *arcticus* - common in BC N of 55°N, ssp. *canadensis* - common in S BC south of 52°N and ssp. *subalpinus* - common in south BC S of 55°N, except absent from the Queen Charlotte Islands; ssp. *arcticus* - N to AK, YT and NT, ssp. *canadensis* - S to W WA and ssp. *subalpinus* - S to N OR.

Notes: Three subspecies occur in BC. These often intergrade where their ranges overlap.

1. Keels densely ciliate on the upper edge above the claws . . . . ssp. *canadensis* (C.P. Smith) Dunn
1. Keels glabrous or sparsely ciliate above the claws.
   2. Leaves mostly basal; longest petioles 9-15 cm long . . . . ssp. *arcticus*
   2. Leaves mostly cauline; longest petioles 4-8 cm long . . . . ssp. *subalpinus* (Piper & B.L. Robins.) Dunn

Lupinus argenteus **Pursh var.** ***argenteus***

Silvery lupine

Habitat/Range: Dry sites in the steppe vegetation and lower montane zones; rare, known only from the Skagit Valley and S Okanagan Valley in S BC; E to SK and S to SD, NM and AZ.

Lupinus bicolor **Lindl.** (*L. micranthus* Dougl. in Lindl. var. *bicolor* [Lindl.] S. Wats., *L. vallicola* Heller ssp. *apricus* [Greene] Dunn)

Two-coloured lupine

Habitat/Range: Mesic to dry sites in the lowland zone; infrequent on SE Vancouver Island; the Gulf Islands and the lower mainland; S to CA.

Notes: *Lupinus vallicola* ssp. *apricus* easily falls within the variability of *L. bicolor* and the use of banner size to separate them is arbitrary.

Lupinus burkei **S. Wats.** (*L. polyphyllus* Lindl. var. *burkei* [S. Wats.] C.L. Hitchc.)

Bigleaf lupine

Habitat/Range: Wet to moist streambanks and meadows in the lowland, steppe vegetation and montane zones; common in SC and SE BC, less frequent northward in E BC; S to ID, MT and CA.

Lupinus densiflorus **Benth. var.** ***scopulorum*** **C.P. Smith** (*L. microcarpus* Sims var. *scopulorum* C.P. Smith)

Dense-flowered lupine

Habitat/Range: Moist to dry, grassy sites in the lowland zone; rare, known only from the Victoria area; S to NW WA.

Lupinus kuschei **Eastw.**

Yukon or Kusche's lupine

Habitat/Range: Mesic, rocky, sandy or gravelly sites in the montane zone; rare in extreme NW BC; endemic to BC and YT.

Lupinus lepidus **Dougl. ex Lindl.** (*L. minimus* Dougl. ex Hook.)

Prairie lupine

Habitat/Range: Dry, gravelly sites in the lowland zone; rare on SE Vancouver Island; S to NW OR.

Lupinus leucophyllus **Dougl. ex Lindl.**

Velvet lupine

Habitat/Range: Dry meadows and forest openings in the steppe vegetation and lower montane zones; rare, known only from Lumby and Lone Pine Creek in SE BC; S to ID, MT, WY, NV and NE CA.

Lupinus littoralis **Dougl. ex Lindl.**

Seashore lupine, or chinook licorice

Habitat/Range: Sandy beaches and dunes; infrequent along the coast; S to N CA.

Lupinus lyallii **A. Gray** (*L. lepidus* ssp. *lyallii* [A. Gray] Detling, *L. lepidus* var. *lobbii* [A. Gray] C.L. Hitchc.)

Dwarf mountain lupine

Habitat/Range: Mesic to dry, meadows and gravelly slopes in the subalpine and alpine zones; infrequent in the Coast-Cascade Mountains S of 53°N; S to ID, NV and N CA.

Lupinus nootkatensis **Donn ex Sims**

Nootka lupine

Habitat/Range: Mesic sites in the lowland and montane zones; common along the coast to N Vancouver Island, frequent in the Coast Mountains, rare in S BC; N to AK and YT.

Notes: Two sympatric extremes are usually recognized.

1. Pubescence spreading, long shaggy-villous; 10-15 mm in diameter . . . . var. *nootkatensis*
1. Pubescence appressed or short-villous; usually less than 9 mm in diameter . . . . var. *fruticosus* Sims

Lupinus polycarpus **Greene** (*L. micranthus* Dougl. in Lindl.)

Small-flowered lupine

Habitat/Range: Dry gravelly sites in the lowland zone; locally frequent on SE Vancouver Island and the Gulf Islands; S to CA.

Lupinus polyphyllus **Lindl.**

Large-leaved or big-leaved lupine

Habitat/Range: Moist to mesic habitats in the lowland, steppe vegetation and montane zones; common in SW and SC BC, less frequent northward; N to SE AK and S to ID and CA.

Lupinus rivularis **Dougl. ex Lindl.**

Stream-bank lupine

Habitat/Range: Wet to moist meadows and riverbanks in the lowland zone; rare in SW BC, known only from Sooke and Delta; S to N CA.

Lupinus sericeus **Pursh**

Silky lupine

Habitat/Range: Dry sites in the the steppe vegetation and lower montane zones; common in SC and SE BC; E to SW AB and S to NM, AZ and CA.

Notes: Recognition of infraspecific taxa within this highly variable species does not appear warranted at this time.

***Lupinus sulphureus* Dougl. ex Hook.** (*L. oreganus* Heller var. *kincaidii* C.P. Smith = ssp. *kincaidii*)
Sulphur lupine
Habitat/Range: Dry sites in the steppe vegetation and lower montane zones (ssp. *subsaccatus* and ssp. *sulphureus*) and lowland zone (ssp. *kincaidii*); frequent (ssp. *sulphureus*) to rare (ssp. *subsaccatus*) in SC BC or rare in SW BC (ssp. *kincaidii*); S to CA.
Notes: Three subspecies occur in BC. The ssp *kincaidii* (*L. oreganus* Heller var. *kincaidii*) was reported from the Victoria area by Dunn and Gillett (1960) while the ssp. *subsaccatus* was cited by Phillips (1955) from Kamloops.

1. Flowers yellow; plants frequent in SC BC . . . . ssp. *sulphureus*
1. Flowers blue to purplish.
   2. Leaflets pubescent on both surfaces: plants rare in SC BC . . . . ssp. *subsaccatus* (Suksd.) Phillips
   2. Leaflets glabrous on upper surfaces; plants rare in SW BC . . . . ssp. *kincaidii* (C.P. Smith) Phillips

***Lupinus wyethii* S. Wats.**
Wyeth's lupine
Habitat/Range: Dry sites in the steppe vegetation and montane zones; rare in SC BC; E to S AB and S to CO and CA.

MEDICAGO[6]

1. Plants perennials, deep-rooted; flowers 6-10 mm long; fruits unarmed.
   2. Flowers blue, rarely pink or white; pods spirally coiled; leaflets usually 2-4 cm long . . . *M. sativa*
   2. Flowers pale yellow, rarely violet; pods slightly falcate; leaflets usually 1-2 cm long . . *M. falcata*
1. Plants annuals, shallow-rooted; flowers less than 6 mm long; fruits often armed.
   3. Pods 1-seeded, unarmed, reniform; flowers 2-3 mm long . . . . *M. lupulina*
   3. Pods several-seeded, usually prickly; flowers 4-5 mm long.
      4. Leaflets usually over 1.5 cm long, with a large dark central spot . . . . *M. arabica*
      4. Leaflets usually less than 1.5 cm long, without spots . . . . *M. polymorpha*

***Medicago arabica* (L.) Huds.**
Spotted medic
Habitat/Range: Fields and waste places; rare, known only from Victoria area; introduced from Eurasia.

***Medicago falcata* L.**
Sickle medic, or yellow lucerne
Habitat/Range: Roadsides and dry slopes in the steppe vegetation zone; rare, known from several scattered locations in S BC east of the Coast-Cascade Mountains; introduced from Eurasia.

***Medicago lupulina* L.**
Black medic
Habitat/Range: Fields, roadsides and waste places; common in BC S of 56°N, absent on Queen Charlotte Islands and N Vancouver Island; introduced from Eurasia.

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[6] Key adapted from Hitchcock *et al.* (1961).

Medicago polymorpha **L.** (*M. hispida* Gaertn., *M. polymorpha* var. *nigra* L.)
Bur-clover
Habitat/Range: Fields and waste places; rare in SW BC; introduced from Eurasia.

Medicago sativa **L.**
Alfalfa
Habitat/Range: Cultivated fields, roadsides and ditches; common agricultural escape in S BC west of the Coast-Cascade Mountains; introduced from Eurasia.

MELILOTUS

1. Flowers white with wings shorter than the standards; pods slightly reticulate . . . . *M. alba*
1. Flowers yellow with wings equal to the standards; pods transversely rugose . . . . *M. officinalis*

Melilotus alba **Desr. in Lam.**
White sweet-clover
Habitat/Range: Fields, roadsides and waste places; common in S BC east of the Coast-Cascade Mountains, rare to the W and NE; introduced from Eurasia.

Melilotus officinalis **(L.) Lam.**
Yellow sweet-clover
Habitat/Range: Fields, roadsides and waste places; frequent in S BC east of the Coast-Cascade Mountains, rare to the W and NE; introduced from Eurasia.

ONOBRYCHIS

Onobrychis viciifolia **Scop.**
Sainfoin, Saintfoin, or holy-clover
Habitat/Range: Fields, roadsides and waste places; common in S BC; introduced from Eurasia.

OXYTROPIS

1. Stipules leafy, adnate to the base of the petiole for only 1/6 to 1/4 their length; pods pendulous; stems often caulescent . . . . *O. deflexa*
1. Stipules not leafy, adnate to the base of the petiole for 1/2 their length or more; pods spreading to erect; stems acaulescent.
    2. Plants more or less glandular-verrucose and usually sticky . . . . *O. viscida*
    2. Plants neither glandular-verrucose nor sticky.
        3. Leaflets, or at least some of them, in pairs or fascicled.
            4. Leaves with leaflets all, or nearly all, fascicled and appearing whorled; stipules lacking marginal clavate processes . . . . *O. splendens*
            4. Leaves with only some of the leaflets in pairs or fascicled; stipules with marginal clavate processes.
                5. Racemes 2-9 flowered . . . . *O. arctica*
                5. Racemes 10-many flowered . . . . *O. jordalii*
        3. Leaflets not in pairs or fasicled, all opposite or nearly opposite.
            6. Flowers pink, purplish or blue (rarely a few white-flowered plants in some populations of *O. arctica* and *O. scammaniana*).

7. Pods much inflated, ovoid; flowers 1-3; alpine plants of SE BC . . . . *O. podocarpa*

7. Pods not much inflated, ovoid-acuminate to oblong-ellipsoid; flowers 6-16 (except 1-4 in *O. nigrescens* and 2-9 in *O. arctica*); habitat and distribution various.

8. Stipules usually with marginal clavate processes; racemes often more than 4 flowered.

9. Racemes 10-16-flowered, the flowers 12-17 mm long . . . . . . *O. jordalii*

9. Racemes 2-9-flowered, the flowers 18-22 mm long . . . . *O. arctica*

8. Stipules lacking marginal clavate processes; racemes usually less than 5-flowered.

10. Scapes erect; pods erect; stipules usually prominent, glabrous to sparsely pilose dorsally, straw-colored . . . . *O. scammaniana*

10. Scapes spreading or often reclining in fruit; pods spreading to erect; stipules various, usually inconspicuous.

11. Pods 18-38 mm long, subsessile or stipitate; racemes usually 2-3-flowered, sometimes 1- or 4-flowered . . . . *O. nigrescens*

11. Pods 10-18 (23) mm long, sessile; racemes usually 1-flowered, sometimes 2-flowered . . . . *O. huddelsonii*

6. Flowers white, yellow or ochroleucous (rarely a few purple-flowered plants in some populations of *O. varians*).

12. Racemes 1-4-flowered . . . . *O. nigrescens*

12. Racemes 6-45-flowered.

13. Plant bases sheathed with reddish brown or purplish brown stipules . . . . *O. maydelliana*

13. Plant bases sheathed with light tan or greyish (sometimes some of them dark brown to black) stipules.

14. Keels 15-20 mm long; pods leathery . . . . *O. sericea*

14. Keels 10-18 mm long; pod papery, if leathery (sometimes in *O. cusickii*) then keels less than 12.5 mm long.

15. Stipules with marginal clavate processes.

16. Racemes 10-25-flowered; leaflets 13-45 . . . . . . *O. varians*

16. Racemes 6-14-flowered; leaflets 9-17 . . . . *O. jordalii*

15. Stipules without marginal clavate processes.

17. Leaflets 17-33; plants of the steppe vegetation zone, not of riparian habitats . . . . *O. monticola*

17. Leaflets 7-17; plants of the alpine zone or of riparian habitats in the montane or steppe vegetation zone.

18. Keels 13-18 mm long; scapes 20-30 cm long; plants of riparian habitats in the montane or steppe vegetation zones . . . . *O. columbiana*

18. Keels 11-12.5 mm long; scapes 2.5-15 cm long; plants of the alpine zone . . . . *O. cusickii*

Oxytropis arctica **R. Br.**
Arctic locoweed or oxytrope
Habitat/Range: Mesic, gravelly sites from the montane to alpine zones; rare in NE BC; amphiberingian, E to PQ and N to AK, YT and NT; E Asia.

Oxytropis columbiana **St. John** (*O. campestris* [L.] DC. var. *columbiana* [St. John] Barn.)
Columbia River locoweed
Habitat/Range: Riparian habitats in the steppe vegetation and montane zones; rare in extreme SC BC; S to WA, ID and MT.

Oxytropis cusickii **Greenm.** (*O. campestris* [L.] DC. var. *cusickii* [Greenm.] Barn.)
Cusick's locoweed
Habitat/Range: Dry, rocky sites in the upper subalpine and alpine zones; rare in SC BC; E to SW AB and S to N CO, ID, and OR.

Oxytropis deflexa **(Pall.) DC.**
Pendant-pod locoweed
Habitat/Range: Moist to mesic sites from the montane to subalpine zones; frequent throughout BC east of the Coast-Cascade Mountains; amphiberingian, N to AK, YT and NT, E to Labr. and S to CO, NM and OR; Siberia.

Oxytropis huddelsonii **Pors.**
Huddelson's locoweed or oxytrope
Habitat/Range: Moist to mesic forest openings and ridges from the montane to alpine zones; rare in NW BC; N to AK and YT.

Oxytropis jordalii **Pors.** (*O. campestris* [L.] DC. var. *jordalii* [Pors.] Welsh = ssp. *jordalii*, *O. campestris* var. *davisii* Welsh = ssp. *davisii*)
Jordal's locoweed
Habitat/Range: Mesic forest openings, gravelly sites and meadows from the montane to alpine zones; rare in NW BC (ssp. *jordalii*) and locally frequent in NE BC (ssp. *davisii*); ssp. *davisii* endemic to NE BC; ssp. *jordalii* N to AK, YT, and NT, disjunct in WC AB.
Notes: Two subspecies occur in BC.

1. Leaflets commonly whorled; plants of NE BC . . . . . ssp. *davisii* (Welsh) Elisens & Packer
1. Leaflets not whorled; plants of NW BC . . . . ssp. *jordalii*

Oxytropis maydelliana **Trautv.**
Maydell's locoweed or oxytrope
Habitat/Range: Moist to mesic alpine meadows; rare in N BC; amphiberingian, E to N PQ, N to AK, YT and NT; E Asia.

Oxytropis monticola **A. Gray ssp. *monticola*** (*O. campestris* [L.] DC. vars. *gracilis* [A. Nels.] Barn. and *cervinus* [Greene] Boivin)
Mountain locoweed
Habitat/Range: Dry meadows and forest openings from the lowland and steppe vegetation to alpine zones; locally frequent in SW and SC BC; E to MB and S to CO and WA.

Oxytropis nigrescens **(Pall.) Fisch. ex DC.**
Blackish locoweed or oxytrope
Habitat/Range: Mesic to dry alpine ridges; infrequent in N BC; amphiberingian, N to AK, YT and NT; E Asia.

Oxytropis podocarpa **A. Gray**
Stalked-pod locoweed
Habitat/Range: Dry, rocky alpine sites; rare in SE BC; E to Labr. and S to CO.

***Oxytropis scammaniana* Hult.**
Scamman's locoweed or oxytrope
Habitat/Range: Mesic to dry sites in the alpine zone; rare in extreme NW BC; N to AK and YT.

***Oxytropis sericea* Nutt. var. *spicata* (Hook.) Barn.**
Silky locoweed
Habitat/Range: Dry, rocky sites from the steppe vegetation to alpine zones; frequent throughout BC east of the Coast-Cascade Mountians; N to S YT, E to MB and S to ID and WY.

***Oxytropis splendens* Dougl. ex Hook.**
Showy locoweed
Habitat/Range: Dry sandy and gravelly sites in the steppe vegetation and montane zones; frequent in NE BC, infrequent in SE BC; N to AK, YT, and NT, E to MB and S to MN, ND and NM.

***Oxytropis varians* (Rydb.) K. Schum.** (*O. alaskana* A. Nels., *O. campestris* [L.] DC. var. *varians* [Rydb.] Barn., *O. hyperborea* Pors.)
Alaskan locoweed or oxytrope
Habitat/Range: Dry rocky and gravelly sites from the montane to alpine zones; rare in extreme N BC, the Queen Charlotte Islands and N Vancouver Island; N to AK, YT and NT.

***Oxytropis viscida* Nutt. ex T.& G.** (*Aragallus viscidulus* Rydb., *O. leucantha* [Pall.] Pursh var. *depressa* [Rydb.] Boivin)
Sticky locoweed
Habitat/Range: Dry sandy or gravelly sites from the montane to alpine zones; rare in extreme N BC and SE BC; N to AK, YT and NT, E to PQ and S to MN and CA.

PSORALEA

***Psoralea physodes* Dougl. ex Hook.**
California-tea
Habitat/Range: Mesic open forests in the lowland zone; rare on S Vancouver Island and the lower Fraser River valley; S to CA, disjunct in ID.

ROBINIA

***Robinia pseudo-acacia* L.**
Black locust
Habitat/Range: Disturbed sites and forest margins; rare horticultural escape in SW and SC BC; native to E U.S.

THERMOPSIS

1. Pods erect to ascending or rarely spreading; nearly or quite straight; plants usually 5-9 dm tall . . . . *T. montana*
1. Pods spreading and usually recurved; plants usually 2-4 dm tall . . . . *T. rhombifolia*

***Thermopsis montana* Nutt. in T.& G.**
Mountain golden bean
Habitat/Range: Wet to mesic meadows in the steppe vegetation and lower montane zones; rare in SE BC; S to MT, ID, CO and CA.

Thermopsis rhombifolia **Nutt. ex Richards. in Frankl.**

Prairie golden bean

Habitat/Range: Mesic sites in the steppe vegetation zone; rare in SE BC; E to MB and S to NB, ND and CO.

TRIFOLIUM[7]

1. Plants annuals.

2. Heads involucrate.

3. Involucres long-villous, usually cup-shaped; calyx teeth simple.

4. Calyces usually hairy, the lower teeth at least as long as the tube and often surpassing the corolla; involucral lobes usually entire or nearly so . . . . *T. microcephalum*

4. Calyces glabrous or nearly so, the teeth all shorter than the tube and noticeably shorter than the corolla; involucral lobes several-toothed . . . . *T. microdon*

3. Involucres glabrous or subglabrous, often flared and saucer-shaped; calyx teeth various.

5. Lower calyx teeth usually bifid or trifid; involucres shallowly round-lobate, the lobes finely erose-dentate, with teeth less than 2.5 mm long . . . . *T. cyathiferum*

5. Lower calyx teeth entire or if otherwise then the involucres with teeth more than 2 mm long.

6. Corollas strongly inflated, narrowed toward the tip; teeth of the involucres and calyces not stiffly spinulose; calyx tubes 5- to 6-nerved . . . . . . *T. depauperatum*

6. Corollas not strongly inflated; teeth of the involucres and calyces usually stiffly spinulose; calyx tubes 10- to 25-nerved.

7. Sinuses of the calyces equally cleft; calyx lobes narrowly lanceolate-subulate, entire; heads 1-2 cm wide; involucres irregularly lobed and usually cleft for at least half its length . . . . *T. variegatum*

7. Sinuses of the calyces not equally cleft, the upper the deepest; calyx lobes often 3-toothed; heads less than 1 cm wide or, if wider, then the involucres usually lobed less than half its length.

8. Heads 3-12 mm wide, the 2-8, sometimes up to 15, flowers 4-8 mm long . . . . *T. oliganthum*

8. Heads 10-30 mm wide, the 6-60 flowers (8) 10-17 mm long . . . . *T. tridentatum*

2. Heads not involucrate.

9. Calyces densely pilose-villous to strigose.

10. Flowers crimson, 12-15 mm long; heads 2-6 cm wide; stipules sheathing at base, the free portion not acuminate or subulate . . . . *T. incarnatum*

10. Flowers white to pink or purple, 5-8, rarely 12 mm long; heads 0.5-2.5 cm wide; stipules usually nonsheathing, mostly acuminate to subulate, or at least acute.

11. Flowers white to pink, about 2/3 the length of the calyces; calyx teeth about twice as long as the tubes; leaflets linear-oblanceolate . . . . *T. arvense*

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[7] Key adapted from Martin (1943) and Hitchcock and Cronquist (1973).

11. Flowers purplish, often subequal to the calyces; calyx teeth usually more than twice as long as the tubes; leaflets oblanceolate to obcordate . . . . . *T. macraei*

9. Calyces glabrous or pubescent only on the teeth.

12. Flowers in part sterile, the fertile (normal) ones 1-7 per head, white or cream-colored; heads burlike; calyx teeth bristle-like . . . . *T. subterraneum*

12. Flowers all fertile, 3-100 per head, yellow or pinkish; heads not burlike; calyx teeth not bristle-like.

13. Flowers pinkish; calyces 10-nerved; plants native . . . . *T. bifidum*

13. Flowers yellow (fading to brown); calyces 5-nerved; plants introduced.

14. Heads less than 8 mm wide, usually with less than 30 flowers, these 3-3.5 mm long . . . . *T. dubium*

14. Heads usually more than 8 mm wide, usually with more than 30 flowers, these 4-7 mm long.

15. Stipules lanceolate; plants ascending to erect . . . . *T. aureum*

15. Stipules ovate; plants prostrate to ascending . . . . *T. campestre*

1. Plants perennials.

16. Flowers subtended by true involucres.

17. Involucral bracts mostly separate; calyces inflated and bladder-like in fruit, pubescent above, reticulate; plants rare, introduced . . . . *T. fragiferum*

17. Involucral bracts united and saucer-like; calyces not inflated or bladdery in fruit, not reticulate; plants frequent, native . . . . *T. wormskjoldii*

16. Flowers not subtended by true involucres.

18. Calyces densely short-hairy, the teeth needle-like; heads 2.5-3.5 cm wide; flowers 3-20 mm long . . . . *T. pratense*

18. Calyces glabrous or sparsely hairy at base of teeth, the teeth lanceolate-subulate to subulate; heads 1.5-2.5 cm wide; flowers 5-9.5 mm long.

19. Flowers white or slightly pinkish; plants stoloniferous; calyces glabrous; leaflets usually rounded with a notch at the tip . . . . *T. repens*

19. Flowers pink to red, rarely white; plants ascending to erect, rarely stoloniferous; calyces sparsely hairy at base of teeth; leaflets usually rounded but not notched at the tip . . . . *T. hybridum*

Trifolium arvense **L.**

Hare's-foot clover

Habitat/Range: Roadsides, fields and waste places; frequent in extreme S BC; introduced from Eurasia.

Trifolium aureum **Poll.** (*T. agrarium* L.)

Yellow clover

Habitat/Range: Roadsides, fields and waste places; common in S BC; introduced from Eurasia.

Trifolium bifidum **A. Gray**

Pinole clover

Habitat/Range: Mesic to dry grassy sites in the lowland zone; rare, known only from the Victoria area and Savory Island; S to CA and MX.

Trifolium campestre **Schreb.** (*T. procumbens* auctt. non L.)
Low hop-clover
Habitat/Range: Roadsides, fields and waste places; frequent in SW BC; introduced from Eurasia.

Trifolium cyathiferum **Lindl.**
Cup clover
Habitat/Range: Wet to mesic, sandy sites in the lowland, steppe vegetation and lower montane zones; rare on S Vancouver Island and SE BC; S to ID and CA.

Trifolium depauperatum **Desv.**
Poverty clover
Habitat/Range: Wet grassy sites in the lowland zone; rare, known only from the Victoria area; S to CA.

Trifolium dubium **Sibth.**
Small hop-clover
Habitat/Range: Roadsides, lawns and waste places; common in coastal BC; introduced from Europe.

Trifolium fragiferum **L. ssp. *bonannii* (Presl) Sojak**
Strawberry clover
Habitat/Range: Roadsides and waste places; rare in S BC; introduced from Europe.

Trifolium hybridum **L.**
Alsike clover
Habitat/Range: Roadsides, fields and waste places; common in S BC south of 52°N, infrequent northward; introduced from Eurasia.

Trifolium incarnatum **L.**
Crimson or Italian clover
Habitat/Range: Roadsides, fields and waste places; rare agricultural escape in SW and SC BC; introduced from Europe.

Trifolium macraei **H.& A. in Hook. var. *dichotomum* (H.& A.) Brew. & Wats.**
Macrae's clover
Habitat/Range: Mesic to dry grassy sites in the lowland zone; rare on SE Vancouver Island and adjacent Gulf Islands; S to C CA.

Trifolium microcephalum **Pursh**
Small-headed clover
Habitat/Range: Moist to dry grassy sites in the lowland and steppe vegetation zones; locally frequent on SE Vancouver Island, the Gulf Islands and SC BC; S to MT, NV, AZ and MX.

Trifolium microdon **H.& A.**
Thimble clover
Habitat/Range: Mesic to dry grassy sites in the lowland zone; locally frequent on SE Vancouver Island, the Gulf Islands and adjacent mainland; S to CA; S. America.

Trifolium oliganthum **Steud.**
Few-flowered clover
Habitat/Range: Moist to dry sites in the lowland zone; locally frequent on SE Vancouver Island, the Gulf Islands and adjacent mainland; S to CA.

Trifolium pratense **L.**
Red clover
Habitat/Range: Roadsides, fields and waste places; common agricultural escape in BC S of 55°N, rare northward; introduced from Eurasia.

Trifolium repens **L.**

White clover

Habitat/Range: Roadsides, fields and waste places; common in BC S of 55°N, rare northward; introduced from Eurasia.

Trifolium subterraneum **L.**

Subterranean clover

Habitat/Range: Roadsides and waste places; infrequent on SE Vancouver Island and the Gulf Islands; introduced from Europe.

Trifolium tridentatum **Lindl.**

Tomcat or sand clover

Habitat/Range: Mesic to dry grassy sites in the lowland zone; locally frequent on SE Vancouver Island, the Gulf Islands and adjacent mainland; S to CA.

Trifolium variegatum **Nutt. in T.& G.** (*T. dianthum* Greene)

White-tipped clover

Habitat/Range: Moist to dry grassy sites in the lowland zone; locally frequent in SW BC, rare in SC BC; S to MT, UT and CA.

Trifolium wormskjoldii **Lehm.**

Springbank clover

Habitat/Range: Wet to moist meadows in the lowland and steppe vegetation zones; common in SW BC, rare in SC BC; S to ID, CO, UT, NM, CA and MX.

ULEX

Ulex europaeus **L.**

Gorse

Habitat/Range: Dry, sandy or rocky sites in the lowland zone; locally frequent in SW BC, rare on the Queen Charlotte Islands; introduced from Europe.

VICIA

1. Flowers 3-6 mm long.
    2. Pods pubescent; racemes 3-8 flowered; leaflets (10) 14-18 . . . . *V. hirsuta*
    2. Pods glabrous; racemes 2-3 flowered; leaflets 8-10 (12) . . . . *V. tetrasperma*
1. Flowers 12-25 mm long.
    3. Leaflets 19-29; flowers white to orange; plants perennials; stems hollow . . . . *V. gigantea*
    3. Leaflets 8-20; flowers purplish, reddish or violet; plants annuals, biennials or perennials; stems not hollow.
        4. Flowers 1-3 per leaf axil . . . . *V. sativa*
        4. Flowers 4-10 (20) on pedunculate racemes.
            5. Calyces not gibbous-based; leaflets 8-12 . . . . *V. americana*
            5. Calyces slightly to strongly gibbous at base; leaflets 10-20.

6. Calyces slightly gibbous at base; flowers 10-15 mm long; plants glabrous to appressed-pubescent perennials . . . . *V. cracca*

6. Calyces strongly gibbous at base; flowers 15-18 mm long; plants densely hirsute-villous annuals or biennials . . . . *V. villosa*

Vicia americana **Muhl. ex Willd.**
American vetch
Habitat/Range: Moist to mesic meadows and open forests in the lowland, steppe vegetation and montane zones; common in S BC, less frequent northward, absent from Queen Charlotte Islands; N to SE AK and NT, E to PQ and NB and S to OH, KS, WV, NM and CA.

Vicia cracca **L.**
Tufted or bird vetch
Habitat/Range: Mesic fields and open forests in the lowland, steppe vegetation and montane zones; frequent in extreme S BC; rare northward E of the Coast-Cascade Mountains; introduced from Eurasia.

Vicia gigantea **Hook.**
Giant vetch
Habitat/Range: Moist to mesic disturbed areas, streambanks and forest openings in the lowland zone; common in coastal BC; N to AK and S to CA.

Vicia hirsuta **(L.) S.F. Gray**
Tiny or hairy vetch
Habitat/Range: Roadsides and waste places; common on SE Vancouver Island and adjacent islands, and lower mainland; introduced from Eurasia.

Vicia sativa **L.** (*V. angustifolia* L. = var. *angustifolia*)
Common vetch
Habitat/Range: Roadsides, and waste places; infrequent agricultural introduction on SE Vancouver Island and adjacent islands and lower mainland, rare on Queen Charlotte Islands; introduced from Eurasia.
Notes: Two varieties occur in BC.

1. Flowers usually at least 18 mm long, the wings often red; leaflets oblanceolate or broader . . . . var. *sativa*

1. Flowers usually less than 18 mm long, the wings usually not red; leaflets variable but often linear . . . . var. *angustifolia* (L.) Wahlenb.

Vicia tetrasperma **(L.) Moench**
Slender vetch
Habitat/Range: Roadsides, fields and waste places; infrequent on SE Vancouver Island and adjacent islands and lower mainland; introduced from Eurasia.

Vicia villosa **Roth**
Hairy or woolly vetch
Habitat/Range: Roadsides, fields and waste places; common in extreme S BC, rare on Queen Charlotte Islands; introduced from Europe.

FAGACEAE

QUERCUS

1. Petioles 5-15 mm long; leaves often deeply lobed, the largest sinuses extending more than halfway to the midrib; acorns sessile; trees native . . . . *Q. garryana*

1. Petioles 1-3 mm long; leaves shallowly lobed, the largest sinuses extending much less than halfway to the midrib; acorns on long stalks; trees rare garden escape . . . . *Q. robur*

Quercus garryana **Dougl.**
Garry oak
Habitat/Range: Dry, open sites in the lowland zone; locally common on SE Vancouver Island and the Gulf Islands, rare in the lower Fraser Valley; S to CA.

Quercus robur **L.**
English oak
Habitat/Range: Edges of forest and open fields near habitation in the lowland zone; rare garden escape in SW BC; introduced from Europe.

FUMARIACEAE[8]

1. Outer petals similar, both spurred or saccate at the base; plants not leafy-stemmed . . . . . *Dicentra*
1. Outer petals dissimilar, only one spurred or saccate at the base; plants sparsely to abundantly leafy-stemmed.
   2. Flowers reddish-purple to deep purple; fruits subglobose, indehiscent, 1-seeded . . . . *Fumaria*
   2. Flowers yellow, blue, bluish-purple or pinkish; fruits ovoid to elongate, 2-valved capsules, several-seeded . . . . *Corydalis*

CORYDALIS

1. Flowers yellow; plants annuals or biennials . . . . *C. aurea*
1. Flowers blue, bluish-purple or pinkish; plants annuals, biennials or perennials.
   2. Flowers blue or bluish-purple; plants subscapose, 0.5-1.5 dm tall . . . . *C. pauciflora*
   2. Flowers pinkish; plants leafy-stemmed, 2-12 dm tall.
      3. Corollas pink throughout, 20-30 mm long, the spurs 12-20 mm long; plants perennials of S BC . . . . *C. scouleri*
      3. Corollas pink with yellow tips, 10-15 mm long, the spurs 2-4 mm long; plants annuals or biennials of S and N BC . . . . *C. sempervirens*

Corydalis aurea **Willd. ssp.** ***aurea***
Golden corydalis
Habitat/Range: Moist to dry sites in the steppe vegetation, montane and subalpine zones; common throughout BC east of the Coast-Cascade Mountains; N to AK, YT and NT, E to PQ and S to UT, MO, OH, TX, CA and MX.

Corydalis pauciflora **(Steph.) Pers.** (*C. pauciflora* var. *albiflora* Pors.)
Few-flowered or blue corydalis
Habitat/Range: Moist sites in the subalpine and alpine zones; infrequent in N BC; amphiberingian, N to AK, YT and SW NT; Asia.

Corydalis scouleri **Hook.**
Scouler's corydalis
Habitat/Range: Moist streambanks in the lowland zone; rare on S Vancouver Island; S to N OR.

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[8] Key adapted from Hitchcock *et al.* (1964).

Corydalis sempervirens **(L.) Pers.**
Pink corydalis
Habitat/Range: Mesic to dry meadows, forest openings and burned or disturbed sites from the lowland and steppe vegetation to the lower subalpine zones; frequent throughout BC except absent on the Queen Charlotte Islands; N to AK, YT and NT, E to NF and S to GA, MN and MT.

DICENTRA

1. Flowers single and terminal; scapes 4-10 cm tall . . . . *D. uniflora*
1. Flowers several; scapes 15-45 cm tall . . . . *D. formosa*

Dicentra formosa **(Haw.) Walp.**
Pacific bleeding heart
Habitat/Range: Moist sites in the lowland and montane zones; common in SW BC, infrequent eastward in S BC; S to CA.

Dicentra uniflora **Kell.**
Steer's head
Habitat/Range: Mesic sites in the lowland and montane zones; rare east of the Coast-Cascade Mountains in SW and SC BC; S to WY, UT and CA.

FUMARIA

1. Flowers 10-12 mm long . . . . *F. bastardii*
1. Flowers 4-6 mm long . . . . *F. officinalis*

Fumaria bastardii **Boreau**
Bastard fumatory
Habitat/Range: Waste places, roadsides and edges of forests in the lowland zone; rare garden escape on the lower mainland; introduced from Europe.

Fumaria officinalis **L.**
Common fumatory
Habitat/Range: Disturbed sites; rare on SE Vancouver Island and adjacent mainland; introduced from Eurasia.

GENTIANACEAE

1. Corollas 4-spurred at the base . . . . *Halenia*
1. Corollas spurless.
    2. Corollas flat or saucer-shaped, lobes usually longer than the tube.
        3. Leaves lanceolate to oblanceolate or spatulate, 0.5-2 cm long; styles absent; stigmas decurrent along the carpel sutures; plants annuals . . . . *Lomatagonium*
        3. Leaves oblong-elliptic to obovate, 4-15 cm long; styles present; stigmas terminal; plants perennials . . . . *Swertia*
    2. Corollas tubular, funnel-like or nearly bell-shaped, lobes usually no longer than the tube.
        4. Corolla tubes with pleats in the lobe sinuses; calyx tubes usually with inner membranous rims . . . . *Gentiana*

4. Corolla tubes without pleats in the lobe sinuses; calyx tubes without inner membranous rims.
    5. Anthers twisted spirally after flowering; styles filiform . . . . *Centaurium*
    5. Anthers remaining straight after flowering; styles short or absent . . . . . . *Gentianella*

CENTAURIUM

1. Basal leaves several; cauline leaves obovate or oblong-oblanceolate; flowers sessile or subsessile . . . . *C. erythraea*
1. Basal leaves few; cauline leaves linear-lanceolate to lanceolate; flowers pedicellate.
    2. Pedicels of the flowers much longer than the calyces; the calyces as long or longer than the corolla tubes; anthers 0.5-1.0 mm long; plants rare in extreme SC BC . . . . *C. exaltatum*
    2. Pedicels of the flowers shorter than the calyces; the calyces shorter than the corolla tubes; anthers 1.5-2.0 mm long; plants rare in SW BC . . . . *C. muhlenbergii*

***Centaurium erythraea* Raf.** (*C. umbellatum* Gilib.)
Common or European centaury
Habitat/Range: Roadsides, fields and waste places; locally common on SE Vancouver Island and the Gulf Islands; introduced from Eurasia.

***Centaurium exaltatum* (Griseb. in Hook.) Wight ex Piper**
Western centaury
Habitat/Range: Moist saline sites in the steppe vegetation zone; rare in SC BC, known only from the Osoyoos area; E to NB and S UT, NV, AZ and CA.

***Centaurium muhlenbergii* (Griseb.) Wight ex Piper** (*C. curvistamineum* [Wittr.] Abrams)
Muhlenberg's centaury
Habitat/Range: Moist sites in the lowland zone; rare in SW BC, known only from Stanley Park, Victoria and Chatham Island; S to NV and CA.

GENTIANA

1. Plants annuals.
    2. Flowers terminal, solitary; plants branched from the base; leaves long-sheathing and overlapping at the base . . . . *G. prostrata*
    2. Flowers in mostly terminal, simple cymes; leaves not long-sheathing or overlapping at base . . . . *G. douglasiana*
1. Plants perennials.
    3. Calyces two-parted, the individual lobes merely teeth at the margin . . . . *G. platypetala*
    3. Calyces tubular, the lobes usually well developed.
        4. Cauline leaves 0.5-1.0 cm long; corollas 1.0-2.0 cm long . . . . *G. glauca*
        4. Cauline leaves 1.0-7.0 cm long; corollas 1.5-4.5 cm long.
            5. Plaits or appendages of corolla sinuses truncate or rounded, entire . . . . *G. sceptrum*
            5. Plaits or appendages of corolla sinuses lacerated into narrow segments.
                6. Flowers solitary, terminal; seeds wingless . . . . *G. calycosa*
                6. Flowers in racemiform cymes; seeds broadly winged . . . . *G. affinis*

Gentiana affinis **Griseb. in Hook.**
Prairie gentian
Habitat/Range: Moist, often saline, sites in the montane to subalpine zones; rare in SE BC, also introduced on SE Vancouver Island; E to MB and S to AZ, CA and MX.

Gentiana calycosa **Griseb. in Hook.**
Mountain bog gentian
Habitat/Range: Wet to moist meadows and streambanks in the subalpine and alpine zones; rare in SE BC; E to SW AB and S to ID, MT and CA.

Gentiana douglasiana **Bong.**
Swamp gentian
Habitat/Range: Bogs and meadows from the lowland to alpine zones; common in coastal BC; N to SE AK and S to WA.

Gentiana glauca **Pallas**
Glaucous gentian
Habitat/Range: Moist to mesic sites in the alpine zone; frequent in and E of the Coast-Cascade Mountains in BC, rare on the coast; amphiberingian, N to AK, YT and NT, E to AB and S to MT and N WA; E Asia.

Gentiana platypetala **Griseb. in Hook.**
Broad-petalled gentian
Habitat/Range: Moist to mesic meadows and talus slopes in the subalpine and alpine zones; infrequent on the Queen Charlotte Islands; rare on N Vancouver Island and the adjacent coast; N to SE AK.

Gentiana prostrata **Haenke**
Moss gentian
Habitat/Range: Bogs and moist meadows in the upper subalpine and alpine zones; infrequent in N and E BC; circumpolar, N to AK, YT and NT, E to SW AB and S to UT, CO and CA; Eurasia.

Gentiana sceptrum **Griseb. in Hook.**
King gentian
Habitat/Range: Wet to moist meadows and lake margins in the lowland zone; common on Vancouver Island and adjacent coast, rare northward; N to S AK and S to N CA.

GENTIANELLA

1. Corollas fringed in the throat, the lobes rounded to acute, with entire margins.
    2. Sepals distinct, slightly pouched at the base; pedicels longer than the adjacent internodes; corolla lobes each bearing a pair of fimbriate scales in the throat . . . . *G. tenella*
    2. Sepals connate at least 1/5 their length, not pouched at the base; pedicels shorter than the adjacent internodes; corolla lobes each bearing a single fimbriate scale in the throat . . . . *G. amarella*
1. Corollas not fringed in the throat, the lobes acuminate or, if rounded, then the margins denticulate.
    3. Corollas 25-60 mm long, the lobes rounded with denticulate margins . . . . *G. crinita*
    3. Corollas 12-20 mm long, the lobes acuminate with entire to minutely erose margins . . . . *G. propinqua*

Gentianella amarella **(L.) Borner ssp. acuta (Michx.) Gillet** (*Gentiana acuta* Michx.)

Northern gentian

Habitat/Range: Moist sites in the lowland, steppe vegetation and montane zones; common in BC east of the Coast-Cascade Mountains, less frequent westward; amphiberingian, N to AK, YT and NT, E to NF and S to VT, NM, CA and MX; Eurasia.

Gentianella crinita **(Froel.) G. Don ssp. *macounii* (Holm) Gillett** (*Gentiana detonsa* Rottb. var. *uncialis* [A. Nels.] C.L. Hitchc., *G. macounii* Holm)

Macoun's fringed gentian

Habitat/Range: Moist bogs, meadows and streamsides; rare in SE BC, known only from Field and Wapta Falls; N to YT and NT, E to PQ and S to MN and SD.

Gentianella propinqua **(Richards. in Franklin) Gillett ssp. *propinqua*** (*Gentiana propinqua* Richards. in Franklin)

Four-parted gentian

Habitat/Range: Moist sites in all vegetation zones; frequent in N BC, less frequent southward in and E of the Coast-Cascade Mountains; N to AK, YT and NT, E to NF and S to MT.

Gentianella tenella **(Rottb.) Borner ssp. *tenella*** (*Gentiana tenella* Rottb., *Lomatagonium tenellum* [Rottb.] Löve & Löve)

Slender gentian

Habitat/Range: Moist meadows from the montane to alpine zones; rare, known only from Tagish Lake (N BC) and Tenquille Lake (S BC); circumpolar, N to AK, YT and NT and S to CO, UT, NM, AZ and CA.

HALENIA

Halenia deflexa **(Smith in Rees) Griseb. ssp. *deflexa***

Spurred gentian

Habitat/Range: Moist sites in the montane zone; infrequent in SE BC; E to NF and S to NY, MI, SD, MT and MX.

LOMATOGONIUM

Lomatogonium rotatum **(L.) Fries ex Nyman**

Marsh felwort

Habitat/Range: Moist to wet meadows and shorelines in the montane to alpine zones; rare in N and E BC; circumpolar, N to AK, YT and NT, E to NF and S to ID, WY and NM; Eurasia.

SWERTIA

Swertia perennis **L.**

Alpine bog swertia

Habitat/Range: Moist sites in the montane to alpine zones; rare in extreme NW BC and along the coast; circumpolar, N to AK and S to CO, NM and CA; Eurasia.

GERANIACEAE

1. Leaves pinnately compound; fertile stamens 5 . . . . *Erodium*
1. Leaves palmately lobed or divided; fertile stamens usually 10 . . . . *Geranium*

ERODIUM

Erodium cicutarium (L.) L'Her. in Ait.
Common stork's-bill
Habitat/Range: Fields and waste places; common in SW and SC BC; introduced from Eurasia.

GERANIUM[9]

1. Plants annuals or biennials; petals 4-10 mm long, often shorter than or only slightly surpassing the calyces.

2. Petals 7-10 mm long; carpels glabrous; sepals conspicuously bristle-tipped . . . *G. robertianum*

2. Petals 4-8 mm long; carpels hairy or glabrous, if glabrous then the sepals not bristle-tipped.

3. Carpels glabrous, finely rugose . . . . *G. molle*

3. Carpels usually hairy, never rugose.

4. Fertile stamens 5; seeds smooth; sepals callous-tipped . . . . *G. pusillum*

4. Fertile stamens 10; seeds reticulate; sepals bristle-tipped.

5. Beaks of the fruits 4-5 mm long; fruiting pedicels much longer than the calyces . . . . *G. bicknellii*

5. Beaks of the fruits 2-3 mm long; fruiting pedicels shorter or only slightly longer than the calyces.

6. Seeds strongly reticulate; inflorescence not much congested; carpels evenly short-hirsute with spreading hairs . . . . *G. dissectum*

6. Seeds obscurely reticulate; inflorescence congested; carpels long-hirsute with ascending hairs and shorter, spreading pubescence . . . . . . *G. carolinianum*

1. Plants perennials; petals 12-24 mm long, much longer than the calyces.

7. Petals pilose on the inner surface 1/5 to 1/2 their length from base; free tips of styles at least 3 mm long.

8. Petals pilose about 1/5 their length from base, rose-purple with darker veins, rarely white . . . . *G. viscosissimum*

8. Petals pilose about 1/2 their length from base, white or pink with pinkish or purplish veins . . . . *G. richardsonii*

7. Petals glabrous except at the ciliate base; free tips of the styles less than 3 mm long.

9. Anther-filaments sparsely hairy at the base with hairs usually less than 0.5 mm long; upper stems glandular-pilose; plants of SW BC . . . . *G. oreganum*[10]

9. Anther-filaments conspicuously pilose with at least some of the hairs up to 3 mm long; upper stems pubescent but not glandular-pilose; plants of N BC . . . . *G. erianthum*

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[9] Key adapted from Hitchcock *et al.* (1961) and Scoggan (1978).

[10] This species, fairly common in NW WA, is known from only a single collection at Victoria in 1896, thus it has been treated in this work as an excluded species.

***Geranium bicknellii* Britt.**

Bicknell's geranium or crane's-bill

Habitat/Range: Forest openings and disturbed sites in the lowland, steppe vegetation and montane zones; frequent in BC east of the Coast-Cascade Mountains, common on SE Vancouver Island and the Gulf Islands, absent elsewhere on the coast; N to AK, YT and NT, E to NF and S to IA, IN, CO, UT and N CA.

***Geranium carolinianum* L.** (*G. carolinianum* var. *sphaerospermum* [Fern.] Breit.)

Carolina geranium or crane's-bill

Habitat/Range: Dry, open, rocky sites in the lowland, steppe vegetation and montane zones; locally frequent on SE Vancouver Island and the Gulf Islands, rare eastward in S BC; E to ON and S to TN, KS, MO, SD, MT and N CA.

***Geranium dissectum* L.**

Cut-leaved geranium or crane's-bill

Habitat/Range: Roadsides, fields and waste places; frequent in SW BC, rare in the Queen Charlotte Islands and in C BC; introduced from Europe.

***Geranium erianthum* DC.**

Northern geranium or crane's-bill

Habitat/Range: Mesic sites from the montane to subalpine zones; common in the Coast Mountains N of 54°N, rare eastward in BC; amphiberingian, N to AK and YT and E to W AB; E Asia.

***Geranium molle* L.**

Dovefoot geranium or crane's-bill

Habitat/Range: Fields, lawns and waste places; common in SW BC, rare northward along the coast; introduced from Eurasia.

***Geranium pusillum* L.**

Small-flowered geranium or crane's-bill

Habitat/Range: Roadsides, fields and waste places; frequent in SW BC, less frequent eastward in S BC; introduced from Eurasia.

***Geranium richardsonii* Fisch. & Trautv.**

White or Richardson's geranium or crane's-bill

Habitat/Range: Moist sites from the lowland to the subalpine zones; frequent in BC east of the Coast-Cascade Mountains, rare in the Queen Charlotte Islands; N to YT and NT, E to SW SK and S to SD, NM and CA.

***Geranium robertianum* L.**

Robert geranium or herb-Robert

Habitat/Range: Mesic sites in the lowland and montane zones; frequent in SW BC, rare northward in the Coast Mountains; circumboreal, E to NF and S to MD, OH, IN and IL.

Geranium viscosissimum* Fisch. & Mey. var. *viscosissimum

Sticky purple geranium or crane's-bill

Habitat/Range: Mesic to dry sites in the steppe vegetation and montane zones; frequent in S BC east of the Coast-Cascade Mountains, rare northward and on Vancouver Island; E to SK and S to SD, CO, UT and CA.

Notes: A few of our plants (in SE BC), without glandular lower stems and petioles, may belong to the more southern var. *nervosum* (Rydb.) C.L. Hitchc.

GROSSULARIACEAE[11]

RIBES[12]

1. Plants with spines or prickles at the nodes and often along the internodes.

    2. Pedicels jointed below the ovary (fruit); racemes 3-15 flowered.

        3. Leaves copiously pubescent and glandular, 1-4 cm broad; fruits reddish . . . *R. montigenum*

        3. Leaves glabrous or only sparsely pubescent, never glandular, 2-7 cm broad; fruits deep purple . . . . *R. lacustre*

    2. Pedicels not jointed below the ovary (fruit); racemes 2-5 flowered.

        4. Styles glabrous . . . . *R. lobbii*

        4. Styles hairy on the lower half.

            5. Stamens at least twice as long as the petals, conspicuously exerted, sometimes exceeding the extended sepals.

                6. Calyces 5-7 mm long, lobes purplish. . . . . *R. divaricatum*

                6. Calyces 3-4 (5) mm long, lobes usually greenish . . . . *R. inerme*

            5. Stamens about as long as the petals, not conspicuously exerted, never as long as the extended sepals.

                7. Flowers about 7 mm long with sepals extended; leaves usually glandular-puberulent below . . . . *R. oxyacanthoides*

                7. Flowers mostly 8-11 mm long with sepals extended; styles united to near the tip; leaves not glandular below . . . . *R. irriguum*

1. Plants lacking spines or prickles.

    8. Free portion of hypanthium campanulate to cylindric, at least as long as broad.

        9. Anthers not tipped with a cup-like gland; dried flowers pink to rose, rarely white; hypanthium shorter than the sepals. . . . . *R. sanguinium*

        9. Anthers gland-tipped; dried flowers white, pinkish or green; hypanthium as long or longer than the sepals.

            10. Fruits red; hypanthium twice as long as the sepals . . . . *R. cereum*

            10. Fruits bluish to black; hypanthium about equaling the sepals . . . . . *R. viscossisimum*

    8. Free portion of hypanthium saucer-shaped or very shallowly cup-shaped, broader than long.

        11. Leaves and ovaries copiously sprinkled with yellowish, sessile, crystalline glands.

            12. Bracts conspicuous, usually longer than the pedicels and often longer than the flowers; racemes generally 15-30 cm long . . . . *R. bracteosum*

            12. Bracts inconspicuous, shorter than the pedicles; racemes generally 4-10 cm long . . . . *R. hudsonianum*

        11. Leaves and ovaries not sprinkled with yellowish, sessile crystalline glands.

            13. Ovaries glabrous and smooth, fruits red; sepals at least as broad as long . . . *R. triste*

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[11] Contributed by J. G. Packer

[12] Key adapted from Hitchcock *et al.* (1961).

13. Ovaries pubescent or stipitate-glandular; fruits dark blue to black; sepals longer than broad.

    14. Racemes drooping; filaments broadened basally; bracts 3-5 mm long; fruits slightly pubescent and sparsely glandular . . . . *R. howellii*

    14. Racemes erect; filaments not broadened basally; bracts 1-3 mm long; fruits glandular bristly.

        15. Petals at least as broad as long, red to purplish; disk brownish to red, nearly flat; stalked gland of the ovary less than 0.5 mm long . . . . . *R. laxiflorum*

        15. Petals longer than broad, white to pink; disk pale pink to greenish-white, saucer-shaped; stalked glands of the ovary up to 1.2 mm long . . . . *R. glandulosum*

Ribes bracteosum **Dougl. ex Hook.**

Stink currant

Habitat/Range: Moist woods in the lowland and montane zones; frequent in the Queen Charlotte Islands, Vancouver Island and the adjacent mainland, mostly west of the Coast-Cascade Mountains; N to S AK and S to CA.

Ribes cereum **Dougl. var. *cereum***

Squaw currant

Habitat/Range: Dry rocky slopes and ledges in the steppe vegetation zone; common in SC BC; S to MT, ID, NV, AZ and CA.

Ribes divaricatum **Dougl.**

Wild or coastal black gooseberry

Habitat/Range: Open woods, plains and on moist hillsides in the lowland zone; frequent on Vancouver Island, the Gulf islands and adjacent mainland; S to CA.

Ribes glandulosum **Grauer**

Skunk currant

Habitat/Range: Moist woods and rocky slopes in the montane zone; frequent in NE BC south to 52°N; N to AK, YT and SW NT, E to NF and S to NC and MN.

Ribes howellii **Greene**

Maple-leaved currant or blackcurrant

Habitat/Range: Moist meadows and streambanks in the subalpine and alpine zone; infrequent in extreme SW BC on the mainland; S to ID and OR.

Ribes hudsonianum **Richards in Frankl.**

Northern blackcurrant

Habitat/Range: Moist woods, streambanks, and rocky slopes in the montane and subalpine zones; common throughout C and E BC; N to AK, YT and S NT, E to NF and S to VT, MN, WY and CA.

Notes: Two varieties occur in BC.

1. Plants hairy (pubescent over the entire lower leaf surface and usually also above); ovaries often glandless; the widely occuring variety . . . . var. *hudsonianum*

1. Plants glabrous to slightly pubescent (on the young stems, petioles and veins of lower leaf surface); ovaries glandular; plants of S BC . . . . var. *petiolare* (Dougl.) Jancz.

Ribes inerme **Rydb.**

White-stemmed gooseberry

Habitat/Range: Streambanks and moist woods in the montane and subalpine zones; locally frequent in S BC; E to AB and S to MT, NM and CA.

Ribes irriguum **Dougl.**

Idaho gooseberry

Habitat/Range: Dry to moist, open to wooded, hillsides and valleys in the montane zone; locally frequent in extreme S BC; S to W MT and N OR.

Ribes lacustre **(Pers.) Poir. in Lamarck**

Black or black swamp gooseberry

Habitat/Range: Moist open woods and forest margins in the montane and subalpine zones; common throughout BC except the extreme NE; N to AK, YT and SW NT, E to NF and S to PA, MI, SD, CO, UT and CA.

Ribes laxiflorum **Pursh**

Trailing black currant

Habitat/Range: Wet cliffs, rocky knolls, margins of woods, and clearings in the lowland and montane zones; locally common in the Rocky Mountains, the Coast Range and the Islands, largely absent from central BC; N to S AK and S YT, E to AB and S to ID and CA.

Ribes lobbii **A. Gray**

Gummy gooseberry

Habitat/Range: Moist open woods and streambanks in the lowland zone; locally frequent on S Vancouver Island and the Gulf Islands; S to CA.

Ribes montigenum **McClatchie**

Mountain or alpine prickly gooseberry

Habitat/Range: Dry talus slopes and ridges in the subalpine and alpine zones; rare in extreme SC BC, known only from Midway; S to NM and CA.

Ribes oxyacanthoides **L.**

Northern or northern smooth gooseberry

Habitat/Range: Moist woods, thickets and clearings (ssp. *cognatum*) or rocky hillsides (ssp. *oxyacanthoides*) in the montane zone; common throughout interior BC; N to S AK, YT and NT, E to PQ and S to PA, IL, MN, NE and WY.

Notes: Two subspecies occur in BC

1. Hypanthium 5-6 mm long, not or only slightly flared; petals (2.5) 3.0-3.5 mm long; plants rare in SC BC. . . . . ssp. *cognatum* Greene

1. Hypanthium 2.5-3.5 mm long, campanulate, flared; petals 2.0-2.5 mm long; the widely distributed subspecies . . . . ssp. *oxyacanthoides*

Ribes sanguineum **Pursh**

Red-flowering currant

Habitat/Range: Open to wooded, moist to dry slopes in the lowland and montane zones; frequent in S BC north to 52°N; S to CA.

Ribes triste **Pallas**

Red swamp currant

Habitat/Range: Moist woods, streambanks and rocky slopes in the montane and subalpine zones; frequent in N BC; amphiberingian, N to AK, YT and NT, E to NF and S to NJ, MN and OR.

Ribes viscosissimum **Pursh var.** ***viscosissimum***

Sticky currant

Habitat/Range: Open to wooded, moist to dry slopes and valleys in the montane and subalpine zones; frequent in SC and E BC north to 51°N; E to AB and S to CO, AZ, and CA.

HALORAGACEAE[13]

MYRIOPHYLLUM

1. Leaves in regular whorls (i.e., with no additional alternate leaves outside the whorls), or opposite; stamens 8.

    2. Plants monoecious, staminate and pistilate flowers in the same inflorescence.

        3. Floral bracts pinnate; glandular appendages (40-80X magnification) scattered in the leaf sinuses and surfaces, filiform and persisting on older leaves . . . . *M. verticillatum*

        3. Floral bracts entire or with a dentate margin; glandular appendages in the leaf sinuses and surfaces absent or, if developed, flat, and not filiform (filiform appendages sometimes present only on the youngest leaves of *M. sibiricum*).

            4. Young shoots with one or several pairs of entire leaves at the base; plants with strong whitish rhizomes; flower bracts triangular, large, dentate, and covered with a waxy white bloom; bracteoles 1.0-1.5 mm long . . . . *M. quitense*

            4. Young shoots lacking entire leaves at the base; plants usually without whitish rhizomes; flower bracts lanceolate, small, entire or denticulate, lacking a waxy bloom; bracteoles less than 1.0 mm long.

                5. Leaves with 4-14 pairs of segments; segments declined from 45°angle to almost perpendicular to the axis of the leaf, angles varying throughout the leaf; leaf sinuses with flattish multicellular glands; winter buds present later in the season . . . . *M. sibiricum*

                5. Leaves with 14-24 pairs of segments; segments declined up to about 45°angle, seldom more, angles rather constant throughout the leaf; leaf sinuses lacking multicellular glands; winter buds absent . . . . *M. spicatum*

    2. Plants dioecious, usually single populations of plants of the same sex, bisexual plants rare.

        6. Plants robust; stems up to 5 mm in diameter; leaves in whorls of 5-8 . . . . . *M. aquaticum*

        6. Plants delicate; stems 1-2 mm in diameter; leaves usually in whorls of 3 or 4, often opposite . . . . *M. ussuriense*

1. Leaves in pseudowhorls (i.e., in whorls, with some additional alternate leaves scattered outside the whorls), or alternate; stamens 4.

    7. Flowers in the axils of submerged leaves, not forming terminal spikes; alternate leaves more common than those in whorls . . . . *M. farwellii*

    7. Flowers in the axils of bracts, forming terminal spikes; alternate leaves scattered, leaves in whorls more common than alternate ones.

        8. Bracteoles at the base of flowers 1-1.3 mm long; petals 1.5-3 mm long; mericarps prominently beaked from a persistent stigma . . . . *M. heterophyllum*

        8. Bracteoles at the base of flowers 0.6-0.7 mm long; petals 1.5 mm long; mericarps without persistent beaks . . . . *M. hippuroides*

***Myriophyllum aquaticum* (Vellozo) Verdcourt** (*M. brasiliense* Cambess. in Hill *et al.*)

Brazilian water-milfoil

Habitat/Range: Garden ponds; infrequent on S Vancouver Island and adjacent lower mainland; S to CA; introduced from S. America.

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[13] Contributed by O. Ceska.

Myriophyllum farwellii **Morong**
Farwell's water-milfoil
Habitat/Range: Lakes and sloughs in the lowland and lower montane zones; infrequent, scattered throughout S BC; E to MB and NS, and S to MI and MN.

Myriophyllum heterophyllum **Michx.**
Vari-leaved water-milfoil
Habitat/Range: Lakes and ponds in the lowland zone; rare in Vancouver (in Beaver Lake in Stanley Park where it is now extirpated, and in Queen Elizabeth Park ponds); introduced from E North America.

Myriophyllum hippuroides **Nutt.**
Western water-milfoil
Habitat/Range: Lakes and sloughs in the lowland zone; infrequent in the lower Fraser River Valley from Vancouver to Hope; S to WA, CA and MX.

Myriophyllum quitense **H.B.K.** (*M. elatinoides* Gaudich.)
Waterwort water-milfoil
Habitat/Range: Large lakes and rivers in the lowland zone; rare on Vancouver Island; E to PE and S to WA, ID, OR, AZ and MX, S. America.

Myriophyllum sibiricum **Kom.** (*M. exalbescens* Fern., *M. spicatum* ssp. *squamosum* Laest. ex Hartman, *M. spicatum* var. *exalbescens* [Fern.] Jeps.)
Siberian water-milfoil
Habitat/Range: Lakes and water bodies in the lowland and montane zones; frequent throughout BC; circumpolar, N to AK, E to NF, and S to CA.

Myriophyllum spicatum **L.** (*M. spicatum* var. *exalbescens pro parte* in Hitchcock *et al.*)
Eurasian water-milfoil
Habitat/Range: Lakes, sloughs, channels and duck ponds in the lowland, steppe vegetation and montane zones; infrequent, scattered throughout S BC; E to ON and PQ, through the US; introduced from Eurasia.

Myriophyllum ussuriense **(Regel) Maxim.**
Ussurian water-milfoil
Habitat/Range: Lakes, lake margins and river banks in the lowland zone; rare on Vancouver Island, lower Fraser River Valley and SC BC; amphiberingian, in North America known only from BC; China, Primor'ye, Kamchatka, Japan.

Myriophyllum verticillatum **L.** (*M. spicatum* var. *spicatum* sensu Hitchcock *et al.*)
Verticillate water-milfoil
Habitat/Range: Lakes and sloughs of the lowland to montane zones; frequent throughout BC; circumpolar, N to AK and YT, E to NF, and S to FL, MN, UT, and CA.

HIPPURIDACEAE

HIPPURIS[14]

1. Stems 1.5-8 (10) cm tall, less than 1 mm thick; leaves 2-6 (10 mm) long . . . . *H. montana*
1. Stems 10-40 cm tall, more than 1 mm thick; leaves 6-30 (50) mm long.

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[14] Key adapted from Welsh (1974).

2. Leaves elliptic to oblong-obovate, obtuse, 6-15 mm long, 2-8 mm wide, 4-6 (8) per whorl . . . . *H. tetraphylla*

2. Leaves linear-attenuate, acute, 6-30 (50) mm long, 1-2 mm wide, (6) 8-12 per whorl . . . . *H. vulgaris*

***Hippuris montana* Ledeb. in Reichenb.**
Mountain mare's-tail
Habitat/Range: Shallow streams, ponds, wet meadows and bogs in the lowland and steppe vegetation to subalpine zones; infrequent in S BC; amphiberingian, N to AK, YT and NT, E to AB and S to NW WA.

***Hippuris tetraphylla* L.f.**
Four-leaved mare's-tail
Habitat/Range: Saline or brackish marshes, tide flats and shallow ponds in the lowland zone; rare in coastal BC, known only from Victoria and Bella Coola; N to AK, YT and NT and E to Labr.

***Hippuris vulgaris* L.**
Common mare's-tail
Habitat/Range: Streamsides, lake shores and shallow ponds in the lowland, steppe vegetation and montane zones; common throughout BC, less frequent along the coast; circumpolar, N to AK, YT and NT, E to Labr. and S to IN, NB, NM and CA; Chile, Argentina and Eurasia.

HYDRANGEACEAE

PHILADELPHUS

***Philadelphus lewisii* Pursh**
Mock-orange
Habitat/Range: Moist to mesic sites in the lowland, steppe vegetation and montane zones; frequent in S BC; E to SW AB and S to MT, ID and N CA.

HYDROPHYLLACEAE

1. Leaves entire (sometimes with a pair of lateral lobes below the middle in *Phacelia*).

    2. Flowers borne singly on basal peduncles . . . . *Hesperochiron*

    2. Flowers borne in simple or branched cymes, these often aggregated into a compound inflorescence . . . . *Phacelia*

1. Leaves coarsely toothed to pinnatifid.

    3. Flowers solitary, or sometimes several, at the leaf axils.

        4. Calyces with lanceolate, spreading to reflexed auricles at the sinuses; seeds with a partial to complete outer covering over the seed coat . . . . *Nemophila*

        4. Calyces without auricles in the sinuses; seeds without an outer covering . . . . *Ellisia*

    3. Flowers in definite inflorescences, not solitary.

        5. Leaves mostly basal, reniform-orbicular, shallowly lobed or deeply toothed; styles entire or nearly so . . . . *Romanzoffia*

        5. Leaves mostly cauline, usually deeply lobed or parted, if entire then lanceolate; styles evidently lobed although sometimes only shortly lobed.

6. Inflorescences with loose, more or less globose heads, well surpassed by the leaves; fibrous-rooted perennials of moist habitats . . . . *Hydrophyllum*

6. Inflorescences elongate, not surpassed by the leaves; taprooted annuals or perennials of mesic to dry habitats . . . . *Phacelia*

ELLISIA

Ellisia nyctelea **L.**
Ellisia
Habitat/Range: Moist sites in the steppe vegetation zone; rare in SC BC; E to MB and S to PA, NC, MI, OK, TX, MT and NM.

HESPEROCHIRON

Hesperochiron pumilus **(Griseb.) Porter**
Dwarf hesperochiron
Habitat/Range: Moist meadows and seepage sites in the montane zone; rare in SE BC, known only from Salmo; S to ID, AZ, NV and CA.

HYDROPHYLLUM

1. Leaflets entire or divided near the apex; rhizomes scarcely evident above ground . . . . *H. capitatum*

1. Leaflets coarsely toothed along the margins; rhizomes usually conspicuous.

   2. Leaf blades scarcely longer than wide, with 5 (sometimes 7-9) segments, all but the lowermost pair usually confluent, the pedicels 5-12 mm long . . . . *H. tenuipes*

   2. Leaf blades evidently longer than wide, with 7-15 segments, only the upper ones confluent, the pedicels 2-7 mm long . . . . *H. fendleri*

Hydrophyllum capitatum **Dougl. ex Benth. var. *capitatum***
Bullhead waterleaf
Habitat/Range: Moist to mesic sites in the steppe vegetation and montane zones; frequent in SC and SE BC; E to SW AB and S to CO and CA.

Hydrophyllum fendleri **(A. Gray) Heller var. *albifrons*** **(Heller) Macbr.**
Fendler's waterleaf
Habitat/Range: Moist to mesic sites in the montane zone; rare in the Coast-Cascade Mountains of extreme S BC; S to ID, WY, UT, NM and N CA.

Hydrophyllum tenuipes **Heller**
Pacific waterleaf
Habitat/Range: Moist sites in the lowland and montane zones; rare in extreme SW BC west of the summits of the Cascade Mountains; S to N CA.

NEMOPHILA[15]

1. Leaves alternate; corollas shorter than calyces; seeds usually solitary . . . . *N. breviflora*

1. Leaves opposite, sometimes the upper ones alternate; corollas equalling or surpassing the calyces; seeds 2-8.

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[15] Key adapted from Hitchcock *et al.* (1959).

2. Calyx auricles well developed, 1-3 mm long at maturity, 1/2-3/4 (or fully) as long as the proper lobes . . . . *N. pedunculata*

2. Calyx auricles short, about 1 mm long at maturity, 1/4-1/2 as long as the proper lobes . . . . *N. parviflora*

Nemophila breviflora **A. Gray**
Great Basin nemophila
Habitat/Range: Mesic to dry sites in the steppe vegetation and montane zones; rare in SC BC; E to SW AB and S to CO, UT and CA.

Nemophila parviflora **Dougl. ex Benth. var. *parviflora***
Small-flowered nemophila
Habitat/Range: Mesic sites in the lowland zone; common on SE Vancouver Island and the Gulf Islands, rare on the lower mainland; S to ID, UT and CA.

Nemophila pedunculata **Dougl. ex Benth.**
Meadow nemophila
Habitat/Range: Moist meadows and bottomlands in the lowland zone; rare on SE Vancouver Island and the Gulf Islands; S to ID, NV, CA and MX.

PHACELIA

1. Leaves entire, or sometimes with a pair of lateral lobes below the middle.
    2. Plants annuals; filaments not strongly exserted; corollas 8-18 mm wide . . . . *P. linearis*
    2. Plants perennials; filaments strongly exserted; corollas 4-7 mm wide.
        3. Stems ascending to erect, mostly over 1.5 dm tall; leaves usually silvery . . . . . *P. hastata*
        3. Stems either more or less prostrate, or less than 1.5 dm tall, or the leaves greenish . . . . *P. leptosepala*
1. Leaves coarsely toothed or lobed to pinnatifid or bipinnatifid.
    4. Stems uniformly leafy throughout; corollas glabrous within; plants annuals or biennials . . . . *P. franklinii*
    4. Stems with middle and upper leaves reduced; corollas hairy within; plants perennials.
        5. Leaves pinnately lobed or coarsely toothed; corollas deciduous; plants long-hairy in the inflorescence, otherwise greenish, sparsely strigose or hirsute and usually glandular . . . . *P. lyallii*
        5. Leaves more or less pinnatifid or bipinnatifid; corollas persistent; plants long-hairy throughout, not glandular.
            6. Pubescence consisting of appressed hairs; plants common in S BC . . . . . *P. sericea*
            6. Pubescence consisting of spreading hairs; plants rare in extreme NW BC . . . *P. mollis*

Phacelia franklinii **(R. Br.) A. Gray**
Franklin's phacelia
Habitat/Range: Dry to mesic gravelly sites, roadsides and disturbed areas in the montane zone; infrequent in C and NE BC; N to AK, YT and NT, E to ON and S to MI, MN, ID and WY.

Phacelia hastata **Dougl. ex Lehm.** (*P. hastata* var. *leucophylla* [Torr.] Cronq.)
Silverleaf phacelia
Habitat/Range: Dry meadows and forest openings from the steppe vegetation to subalpine zones; common in SC and SE BC; E to SW AB and S to NE, CO and CA.

Phacelia leptosepala **Rydb.** (*P. hastata* var. *leptosepala* [Rydb.] Cronq.)
Narrow-sepaled phacelia
Habitat/Range: Dry to mesic meadows and forest openings in the lowland to montane zones; frequent in SW BC, rare eastward; S to ID, MT and NE OR.

Phacelia linearis **(Pursh) Holz.**
Thread-leaved phacelia
Habitat/Range: Dry sites in the lowland, steppe vegetation and lower montane zones; common in SC and SE BC; infrequent on S Vancouver Island and the Gulf Islands; E to SW AB and S to WY, UT and N CA.

Phacelia lyallii **(A. Gray) Rydb.**
Lyall's phacelia
Habitat/Range: Dry alpine scree slopes and cliffs; rare in extreme SE BC; E to SW AB and S to ID and W MT.

Phacelia mollis **J.F. Macbr.**
MacBryde's phacelia
Habitat/Range: Dry to mesic sandy or gravelly sites, roadsides and disturbed areas in the montane zone; rare in NW BC; N to AK and SW YT.

Phacelia sericea **(Grah.) A. Gray**
Silky phacelia
Habitat/Range: Dry, often rocky meadows and forest openings from the montane to alpine zones; common in and east of the Coast-Cascade Mountains in S BC, rare on Vancouver Island; E to SW AB and S to CO, NV and N CA, reportedly disjunct in E AK.

ROMANZOFFIA

1. Plants bearing well developed, brown-woolly tubers at the base; rare in the lowland zone on SW and S coast of Vancouver Island . . . . *R. tracyi*

1. Plants without tubers, but the petioles strongly dilated and overlapping to form a bulbous base; infrequent to frequent in the upper montane to alpine zones of the Queen Charlotte Islands, Vancouver Island, and Cascade Mountains, and SE BC . . . . *R. sitchensis*

Romanzoffia sitchensis **Bong.**
Sitka romanzoffia or mistmaiden
Habitat/Range: Moist to wet cliffs and talus slopes from the upper montane to alpine zones; frequent on Vancouver Island, less frequent on the Queen Charlotte Islands, Cascade Mountains and SE BC; N to SE AK, E to AB and ID, MT and N CA.

Romanzoffia tracyi **Jeps.**
Tracy's romanzoffia or mistmaiden
Habitat/Range: Mesic to moist coastal bluffs; rare in SW BC and S coast of Vancouver Island; S to N CA.

HYPERICACEAE

HYPERICUM

1. Plants procumbent, forming dense mats, leaves 0.5-1.5 cm long . . . . *H. anagalloides*

1. Plants with erect stems; leaves 1-3.5 cm long.

    2. Sepals triangular to ovate-lanceolate; leaves ovate-lanceolate to obovate . . . . . . *H. formosum*

2. Sepals linear-lanceolate to lanceolate; leaves lanceolate to oblong.
    3. Leaves usually purplish-black dotted; stamens more than 75; seeds not striate . . . . *H. perforatum*
    3. Leaves not black-dotted; stamens less than 35; seeds longitudinally striate . . . . *H. majus*

Hypericum anagalloides **Cham. & Schlecht.**
Bog St. John's-wort
Habitat/Range: Moist sites in the lowland, steppe vegetation and montane zones; common in SW BC, rare elsewhere in S BC; S to MT, CA and MX.

Hypericum formosum **H.B.K.**
Western St. John's-wort
Habitat/Range: Moist sites in the lowland, steppe vegetation, montane and subalpine zones; rare, scattered throughout S BC; S to MT, WY, CA and MX.
Notes: Two varieties occur in BC.

1. Stems mostly simple, up to 2 dm tall . . . . var. *nortoniae* (M.E. Jones) C.L. Hitchc.
1. Stems frequently branched, over 2 dm tall . . . . var. *scouleri* (Hook.) Coult.

Hypericum majus **(A. Gray) Britt.**
Large Canadian St. John's-wort
Habitat/Range: Moist sites in the lowland, steppe vegetation and lower montane zones; infrequent in S BC, rare northward to Terrace; E to PQ, S to PA, NJ and CO.

Hypericum perforatum **L.**
Common St. John's-wort
Habitat/Range: Roadsides and fields in the lowland zone; rare on central Vancouver Island, the lower Fraser Valley and SC BC; introduced from Eurasia.

LAMIACEAE[16]

1. Calyces with raised, hood-like projections on upper side . . . . *Scutellaria*
1. Calyces lacking raised projections on upper side.
    2. Corollas more or less regular.
        3. Stamens 4; plants aromatic.
            4. Corollas 5-lobed; flowers in dense rounded heads, subtended by dry bracts . . . . *Monardella*
            4. Corollas 4-lobed; flowers if in rounded heads not subtended by dry bracts . . . *Mentha*
        3. Stamens 2; plants not aromatic . . . . *Lycopus*
    2. Corollas strongly two-lipped.
        5. Upper lip of corollas absent or apparently so; lower lip 3 or 5 lobed.
            6. Corollas blue; upper lip absent; lower lip 3-lobed; plants less than 30 cm tall . . . *Ajuga*
            6. Corollas pink-purple; upper lip deeply split, giving lower lip appearance of being 5-lobed; plants much greater than 30 cm tall . . . . *Teucrium*
        5. Upper lip of corollas entire or 2-lobed; lower lip usually 3-lobed.

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[16] Key adapted from Hitchcock and Cronquist (1973).

7. Stamens 2.

8. Corollas 2-4 cm long, pale mauve to pink; flowers in rounded, head-like clusters . . . . . . *Monarda*

8. Corollas less than 1 cm long, blue to dark purple; flowers in elongated spikes . . . . . . *Salvia*

7. Stamens 4.

9. Inflorescences largely terminal, if subtended by bracts, these usually small and different from leaves.

10. Stamens exserted beyond corollas.

11. Calyces bilabiate . . . . . . *Thymus*

11. Calyces regular or nearly so.

12. Leaf margins entire or obscurely toothed; flowers solitary (or paired) in axils of bracts, crowded in dense head-like clusters . . *Origanum*

12. Leaf margins strongly toothed; flowers not subtended by bracts, crowded in dense spikes . . . . . . *Agastache*

10. Stamens included within corollas.

13. Flowers borne singly in axils of small bracts, forming elongated terminal clusters . . . . . . *Physostegia*

13. Flowers, several together, borne in dense heads or spikes.

14. Calyces 5-10 nerved.

15. Calyces bilabiate; corollas dark purple-blue . . . . . . *Prunella*

15. Calyces regular; corollas white to pink or rose-red . . *Stachys*

14. Calyces 15 nerved.

16. Calyces with large upper tooth and 4 small lower ones . . . . . . *Dracocephalum*

16. Calyces regular . . . . . . *Nepeta*

9. Inflorescences largely axillary, or if appearing terminal, then subtending bracts nearly as large as normal stem leaves.

17. Calyx lobes 10, recurved and hooked at tip . . . . . . *Marrubium*

17. Calyx lobes 5, not hooked at tip.

18. Middle lobe of lower lip of corollas constricted at base . . . . . . *Lamium*

18. Middle lobe of lower lip of corollas not constricted at base.

19. Calyx lobes sharp-pointed.

20. Lower lip of corollas with pair of small yellow pointed projections near base; leaves toothed . . . . . . *Galeopsis*

20. Lower lip of corollas lacking pair of small yellow projections; major leaves palmately lobed . . . . . . *Leonurus*

19. Calyx lobes not sharp-pointed.

21. Calyces bilabiate; leaves with strong smell of lemon . . . . . . *Melissa*

21. Calyces regular; leaves lacking smell of lemon.
    22. Corollas blue; leaf bases deeply cordate . . . . *Glecoma*
    22. Corollas white to pink; leaf bases rounded, but not cordate . . . . *Satureja*

AGASTACHE

1. Calyces to 7 mm long, teeth to 2 mm long; leaves densely white pubescent beneath . . *A. foeniculum*
1. Calyces to 10 mm long, teeth to 5 mm long; leaves glabrous or sparsely pilose beneath . . . . *A. urticifolia*

Agastache foeniculum **(Pursh) Kuntze** (*A. anethiodora* [Nutt.] Britt.)
Giant-hyssop
Habitat/Range: Dry, open woods and clearings in the montane zone; rare in C and E BC; N to NT, E to ON and S to DE and CO.

Agastache urticifolia **(Benth.) Kuntze**
Nettle-leaved giant-hyssop
Habitat/Range: Dry, open slopes in the steppe vegetation and montane zones; rare in S BC east of the Coast-Cascade Mountains; S to CA and CO.

AJUGA

Ajuga reptans **L.**
Bugle-weed
Habitat/Range: Waste places in the lowland and montane zones; rare garden escape in lower mainland of BC; introduced from Europe.

DRACOCEPHALUM

1. Whorls of flowers crowded in a dense terminal head, the bracts spinose-tipped; calyces about 10 mm long, the tube and spinose-tipped lobes about equal . . . . *D. parviflorum*
1. Whorls of flowers in loose, elongated, interrupted racemes, the bracts entire or merely ciliate; calyces to about 8 mm long, the lobes distinctly shorter than the tube . . . . *D. thymiflorum*

Dracocephalum parviflorum **Nutt.** (*Moldavica parviflora* [Nutt.] Britt.)
American dragonhead
Habitat/Range: Waste places, roadsides and streambanks from the lowland to montane zones; infrequent throughout BC; N to AK, YT and NT, E to PQ and S to NY, MO, NE, NM, AZ and OR.

Dracocephalum thymiflorum L. (*Moldovica thymiflora* [L.] Nutt.)
Eurasian dragonhead
Habitat/Range: Waste places; rare in SC BC; known only from Vernon area and Tulammeen River Valley.

GALEOPSIS

Galeopsis tetrahit **L.** (*G. bifida* Boenn. = var. *bifida*)
Hemp-nettle
Habitat/Range: Waste places, edges of forests from the lowland to montane vegetation zones; frequent throughout BC, south of 56°N; introduced from Eurasia.
Notes: Two sympatric varieties occur in BC:

1. Middle lobe of lower lip of corollas cleft; dark markings of lower lip reaching margins . . . . var. *bifida* (Boenn.) LeJ. & Court
1. Middle lobe of lower lip of corollas square, not cleft; dark markings of lower lip restricted to middle . . . . var. *tetrahit*

GLECOMA

Glecoma hederacea **L.**
Ground-ivy
Habitat/Range: Waste places and open forests in the lowland zone; frequent on S Vancouver Island, the Gulf Islands and the lower mainland of BC; introduced from Eurasia.

LAMIUM

1. Plants perennials, from fibrous root systems; corollas 2-3.5 cm long, curved at base . . . . *L. maculatum*
1. Plants annuals, from taproots; corollas less than 2 cm long, straight at base.
   2. Leaves surrounding inflorescence sessile, usually wider than long . . . . *L. amplexicaule*
   2. Leaves all petiolate, those surrounding inflorescence longer than wide.
      3. Leaves incised-dentate . . . . *L. hybridum*
      3. Leaves crenate-serrate . . . . *L. purpureum*

Lamium amplexicaule **L.**
Common or henbit dead-nettle
Habitat/Range: Waste places and grassy fields in the lowland to montane zones; frequent in SW BC, rare northward; introduced from Eurasia.

Lamium hybridum **Vill.**
Hybrid dead-nettle
Habitat/Range: Waste places in the lowland zone; rare in SW BC, known only from Sea Island; introduced from Eurasia.
Notes: Usually considered to be of hybrid origin between *L. moschatum* Mill. and *L. purpureum.*

Lamium maculatum **L.**
Spotted dead-nettle
Habitat/Range: Waste places in the lowland zone; rare in SW BC; introduced from Europe.

Lamium purpureum **L.**
Purple dead-nettle
Habitat/Range: Waste places and roadsides in the lowland zone; frequent on S Vancouver Island, the Gulf Islands and the lower mainland, rare in the interior; introduced from Europe.

LEONURUS

Leonurus cardiaca **L.**

Common motherwort

Habitat/Range: Waste places in the montane zone; rare in BC, known only from Vernon; introduced from Eurasia.

LYCOPUS

1. Calyx lobes soft, blunt, equal in length to mature nutlets . . . . *L. uniflorus*

1. Calyx lobes firm, slenderly pointed, longer than mature nutlets.

    2. Leaves mostly sessile, with broad, rounded base; margins toothed; nutlets broad, flattened apically . . . . *L. aspera*

    2. Leaves mostly narrowed to petiolar base; margins incised or pinnatifid; nutlets rounded apically . . . . *L. americanus*

Lycopus americanus **Muhl. ex Bart.**

Cut-leaved water horehound

Habitat/Range: Wet lake and stream margins, edges of forests in the lowland and montane zones; frequent in C and S BC; E to NF and S to CA and FL.

Lycopus asper **Greene** (*L. lucidus* Turcz. ex Benth. ssp. *americanus* [Gray] Hult.)

Rough water horehound

Habitat/Range: Marshes and edges of streams and lakes in the steppe vegetation zone; infrequent in C and S BC east of the Coast-Cascade Mountains; N to AK, E to ON, and S to IA, CO and CA.

Lycopus uniflorus **Michx.**

Northern water horehound

Habitat/Range: Marshes and edges of steams and lakes in the lowland and montane zones; frequent in SW BC, less frequent northward and eastward; N to AK, E to NF and S to NC, AR and CA.

MARRUBIUM

Marrubium vulgare **L.**

Common horehound

Habitat/Range: Mesic to dry, disturbed sites in the lowland and lower montane zones; frequent throughout C and S BC; introduced from Eurasia.

MELISSA

Melissa officinalis **L. ssp.** ***officinalis***

Lemon balm

Habitat/Range: Distubed sites from the lowland to steppe vegetation zones; rare garden escape in C and W BC; introduced from Europe.

MENTHA

1. Flowers in axillary clusters above more or less ordinary leaves.
    2. Leaves 1-2 cm long, those subtending the flower clusters barely longer than the flowers . . . . *M. pulegium*
    2. Leaves 2-8 cm long, those subtending the flower cluster much longer than the flowers.
        3. Stems retrorse-pubescent on the angles . . . . *M. arvensis*
        3. Stems glabrous throughout . . . . *M.* x *gentilis*
1. Flowers crowded in terminal spike-like or head-like clusters, above reduced bract-like leaves.
    4. Leaves distinctly petiolate, most of the petioles 4-15 mm long . . . . M. x *piperita*
    4. Leaves sessile (or petioles up to 3 mm long).
        5. Leaves soft pubescent, especially beneath . . . . M. *suaveolens*
        5. Leaves glabrous, or hirsute only along veins beneath . . . . M. *spicata*

Mentha arvensis **L.** (*M. arvenis* ssp. *borealis* [Michx.] Taylor & MacBryde and ssp. *haplocalyx* Briq. = var. *villosa*)

Field mint

Habitat/Range: Wet ground, edges of streams and lakes in the lowland and montane zones; common throughout BC; circumboreal, N to AK, YT and NT, E to NF and S to DE, MO and CA; Eurasia.

Notes: Two intergrading varieties occur in BC:

1. Leaves elliptic to ovate, broadest below middle, bases rounded . . . . var. *arvensis*
1. Leaves lanceolate to lanceolate-oblong, broadest near or above middle, bases cuneate or attenuate . . . . var. *villosa* (Benth.) Stewart

Mentha* x *gentilis **L.**

Red mint

Habitat/Range: Wet, waste places in the lowland zone; rare garden escape in SW BC, known only from Victoria; introduced from Europe.

Notes: Considered to be a hybrid between *M. arvensis* and *M. spicata*.

Mentha* x *piperita **L.** (*M. citrata* Ehrh. = var. *citrata*)

Peppermint

Habitat/Range: Waste places, wet areas in the lowland zone; rare garden escape in SW BC; introduced from Europe.

Notes: Variously treated as a species or hybrid between *M. aquatica* L. and *M. spicata* L.. Two varieties (sometimes treated as forms) occur in BC:

1. Leaves with peppermint smell; heads of several to many whorls of flowers . . . var. *piperita*
1. Leaves with lemon smell; heads of rarely more than 3 whorls of flowers . . . . var. *citrata* (Ehrh.) Briq.

Mentha pulegium **L.**

Pennyroyal

Habitat/Range: Wet, waste places in the lowland zone; rare garden escape in SW BC; introduced from Europe.

Mentha spicata **L.**

Spearmint

Habitat/Range: Wet places, grassy areas in the lowland to montane zones; scattered throughout BC, more common southward; introduced from Europe.

Mentha suaveolens **Ehrh.** (*Mentha rotundifolia* [L.] Huds.)

Applemint

Habitat/Range: Waste places in the lowland zone; rare garden escape in SW BC; introduced from Europe.

MONARDA

Monarda fistulosa **L.** (*M. menthaefolia* Grah. = var. *menthaefolia*)

Wild bergamot

Habitat/Range: Dry hillsides, meadows and open forests in the steppe vegetation and lower montane zones; common in BC east of the Coast-Cascade Mountains; N to NT, E to PQ, and S to GA and MX.

Notes: Two sympatric varieties occur in BC:

1. Leaves with petioles to 1.5 cm long; stems usually branched above . . . . var. *mollis* (L.) Benth.

1. Leaves sub-sessile or petioles less than 0.5 cm long; stems usually simple . . . . var. *menthaefolia* (Grah.) Fern.

MONARDELLA

Monardella odoratissima **Benth.**

Monardella

Habitat/Range: Dry sagebrush slopes in the steppe vegetation zone; rare in SE BC east of the Coast-Cascade Mountains, known only from Nelson; S to CA and E to NM and CO.

NEPETA

Nepeta cataria **L.**

Catnip

Habitat/Range: Waste places in the lowland and steppe vegetation zones; infrequent throughout S BC, more common E of Coast-Cascade Mountains; introduced from Europe.

ORIGANUM

Origanum vulgare **L.**

Wild marjoram

Habitat/Range: Roadsides and waste places in the lowland zone; rare garden escape in SW BC; introduced from Europe.

PHYSOSTEGIA

Physostegia parviflora **Nutt. ex Gray** (*Dracocephalum nuttallii* Britt.)

Purple dragonhead

Habitat/Range: Marshes, edges of streams and lakes in the lowland and montane zones; infrequent throughout BC, S of 54°N; N to NT, E to SK and S to NE, MN and OR.

PRUNELLA

Prunella vulgaris **L.** (*P. vulgaris* var. *lanceolata* [Bart.] Fern. and *P. vulgaris* var. *calvescens* Fern. = ssp. *lanceolata*)

Self-heal

Habitat/Range: Roadsides, waste places, fields and open forests from the lowland to montane zones; common throughout BC south of 57°N; introduced from Eurasia (ssp. *vulgaris*) and native (ssp. *lanceolata*).

Notes: Two subspecies occur in BC:

1. Principal stem leaves ovate to ovate-oblong (averaging half as broad as long), broadly cuneate or rounded at base; plants of coastal BC. . . . . ssp. *vulgaris*
1. Principal stem leaves lanceolate to ovate-oblong (averaging one-third as broad as long), narrowly cuneate to acute at base; plants from throughout BC. . . . . ssp. *lanceolata* (Bart.) Hult.

SALVIA

Salvia nemorosa **L.**

Wood sage

Habitat/Range: Roadsides and waste places in the steppe vegetation zone; rare in S BC east of the Coast-Cascade Mountains; introduced from Europe.

SATUREJA

1. Stems creeping, rooting at nodes; flowers white . . . . *S. douglasii*
1. Stems erect; flowers pink.
    2. Flowers crowded in terminal or axillary head-like clusters, subtended by slender bracts, similar in shape and pubescence to calyx lobes . . . . *S. vulgaris*
    2. Flowers few at each node, not crowded in head-like clusters, not subtended by slender bracts . . . . *S. acinos*

Satureja acinos **(L.) Scheele**

Basil-thyme

Habitat/Range: Disturbed, open places in forests in the montane zone; rare in SE BC, known only from Arrow Lakes; introduced from Eurasia.

Satureja douglasii **(Benth.) Briq. in Engl. & Prantl**

Yerba buena

Habitat/Range: Open coniferous forests in the lowland, steppe vegetation and montane zones; infrequent in S BC east of the Coast-Cascade Mountains, common on S Vancouver Island and the Gulf Islands, infrequent on the adjacent mainland; S to ID and CA.

Satureja vulgaris **(L.) Fritsch** (*Calamintha clinopodium* Benth., *Clinopodium vulgare* L.)

Wild basil savory

Habitat/Range: Disturbed, often wet areas in the lowland, steppe vegetation and montane zones; rare throughout BC; introduced from Eurasia; possibly native also.

SCUTELLARIA

1. Flowers in racemes borne in axils of leaves; corollas less than 10 mm long . . . . *S. lateriflora*

1 Flowers paired at nodes, one above each leaf; corollas 15 mm long or longer.

  2. Leaves truncate-cordate at base, 2-5 cm long; lower lip of corollas not hairy . . . . *S. galericulata*

  2. Leaves tapering or rounded at base, 1-2.5 cm long; lower lip of corollas long-hairy . . . . *S. angustifolia*

Scutellaria angustifolia **Pursh**
Narrow-leaved skullcap
Habitat/Range: Dry, rocky areas in the lower montane zone; rare in BC, now known only from Trail, old record from Victoria; S to ID and CA.

Scutellaria galericulata **L.** (*S. epilobiifolia* A. Hamilton)
Marsh skullcap
Habitat/Range: Wet places, edges of lakes and streams, roadside ditches, and open wet forests in the lowland, steppe vegetation and montane zones; frequent throughout BC; circumboreal N to AK, YT and NT, E to NF and S to TX, NM, AZ and CA; Eurasia.

Scutellaria lateriflora **L.**
Blue skullcap
Habitat/Range: Moist grassy areas in the lowland, steppe vegetation and montane zones; infrequent throughout, more common in C and S BC; E to NF and S to GA, TX and CA.

STACHYS

1. Plants annuals . . . . *S. arvensis*

1. Plants perennials.

  2. Plants densely covered with soft, white hairs . . . . *S. byzantina*

  2. Plants not white hairy.

    3. Leaves sessile, at least those of upper half of stem . . . . *S. palustris*

    3. Leaves all petiolate.

      4. Plants 7-15 dm tall; corollas deep red-purple, tubes 15-23 mm long . . . . . *S. cooleyae*

      4. Plants 3-8 dm tall; corollas pale pink to pink-purple, tubes 8-13 mm long . . *S. mexicana*

Stachys arvensis **(L.) L.**
Field hedge-nettle
Habitat/Range: Waste places in the lowland zone; rare in SW BC, known only from Victoria; introduced from Europe.

Stachys byzantina **C. Koch** (*S. lanata* Jacq., *S. olympica* Poir.)
Lamb's-ears
Habitat/Range: Waste places in the lowland zone; rare garden escape on S Vancouver Island and the Gulf Islands; introduced from Europe.

Stachys cooleyae **Hell.**
Cooley's hedge-nettle
Habitat/Range: Roadsides, open woods and clearings in the lowland and lower montane zone; common in SW BC, west of the Coast-Cascade Mountains; S to OR.

Stachys mexicana **Benth.** (*S. ciliata* Dougl. ex Benth.)
Mexican hedge-nettle
Habitat/Range: Moist forests and swamps in the lowland zone; infrequent in coastal BC; N to S AK and S to CA.

Stachys palustris **L. ssp. *pilosa*** **(Nutt.) Epling**
Swamp hedge-nettle
Habitat/Range: Wet meadows and roadside ditches in the steppe vegetation zone; infrequent in S BC east of the Coast-Cascade Mountains; circumpolar, N to AK, YT and NT, E to NF and S to NY, OH and AZ; Eurasia.

TEUCRIUM

Teucrium canadense **L. ssp. *viscidum*** **(Piper) Taylor & MacBryde** (*T. occidentale* A. Gray, *T. canadense* var. *occidentale* [A. Gray] McClint. & Epling)
American germander
Habitat/Range: Wet waste places, meadows and clearings in the steppe vegetation zone; infrequent in S BC east of the Coast-Cascade Mountains; E to NB and S to FL, MX and CA.

THYMUS

Thymus serpyllum **L.**
Creeping thyme
Habitat/Range: Grassy slopes and waste places in the lowland and montane zones; rare garden escape in coastal BC; introduced from Europe.

LENTIBULARIACEAE

1. Calyces 5-lobed; flowers bluish-violet; leaves entire, basal . . . . *Pinguicula*
1. Calyces 2-lobed; flowers yellow; leaves dissected, cauline . . . . *Utricularia*

PINGUICULA

1. Scapes densely glandular-villous; corollas pale bluish-violet, less than 10 mm long . . . . . *P. villosa*
1. Scapes glabrous or obscurely glandular; corollas dark bluish-violet, more than 15 mm long . . . . *P. vulgaris*

Pinguicula villosa **L.**
Hairy butterwort
Habitat/Range: Bogs and ponds (usually in Sphagnum) in the lowland and montane zones; rare in NW BC, including the Queen Charlotte Islands; circumboreal, N to AK, YT and NT and E to Labr.; Eurasia.

Pinguicula vulgaris **L.** (*P. arctica* Eastw., *P. macroceras* [Link.] Herder, and *P. microceras* Cham. = var. *macroceras*)
Common butterwort
Habitat/Range: Wet sites in all but the alpine zone; var. *macroceras* infrequent on the coast, rare inland, var. *vulgaris* frequent throughout BC, less frequent on the coast; var. *macroceras* amphiberingian, N to AK and SW YT and S to CA; E Asia; var. *vulgaris* circumboreal, N to AK, YT and NT, E to NF and S to NY and VT; Eurasia.

Notes: Two closely related and intergrading subspecies occur in BC.[17]

1. Corolla lobes of the lower lip subobovate-oblong, more or less covering each other, or at least touching; lower lip of the calyx split up to half its length . . . . var. *macroceras* (Link) Herder

1. Corolla lobes of the lower lip oblong, not covering or touching each other; lower lip of the calyx split up to 2/3 of its length . . . . var. *vulgaris*

UTRICULARIA[18]

1. Leaf margins and winter buds bristly.
    2. Leaves pinnatifid, with more than 20 terete ultimate segments, usually with numerous bladders . . . . *U. vulgaris*
    2. Leaves dichotomously divided, with fewer than 20 flat ultimate segments, usually without bladders . . . . *U. intermedia*
1. Leaf margins and winter buds glabrous (the latter absent in *U. gibba*).
    3. Leaves with more than 5 ultimate segments, these flattened and gradually narrowed toward the tips; inflorescence of 3-9 flowers; bracts auriculate; pedicels recurved in fruit; seeds not winged . . . . *U. minor*
    3. Leaves with fewer than 5 ultimate segments, these filiform; inflorescence of 1-3 flowers; bracts not auriculate; pedicels not recurved in fruit; seeds winged . . . . *U. gibba*

***Utricularia gibba* L.**

Humped bladderwort

Habitat/Range: Lake bottoms and edges, and muddy disturbed sites in the lowland zone; rare on S Vancouver Island and the Vancouver area; E NA, S America and Africa.

***Utricularia intermedia* Hayne**

Flat-leaved bladderwort

Habitat/Range: Oligotrophic and dystrophic lakes and marshes in the lowland, steppe vegetation and montane zones; frequent S of 55°N in BC, rare northward; circumpolar, N to AK, YT and NT, E to NF and S to OH, DE, IA, and CA; Eurasia.

***Utricularia minor* L.**

Lesser bladderwort

Habitat/Range: Oligotrophic and dystrophic lakes and peat bog pools in the lowland and montane zones; common on Vancouver Island and the Queen Charlotte Islands, less frequent inland; circumpolar, N to AK, YT and NT, E to NF and S to PA, NJ, ND, CO and CA; Eurasia.

Notes: The illustration of *U. minor* in Hitchcock *et al.* (1959) is actually of *U. ochroleuca* R. Hartman, a species occurring N to Puget Sound, WA (Ceska and Bell 1973). See the latter paper for flower and leaf illustrations of our *Utricularia* species.

***Utricularia vulgaris* L.**

Greater bladderwort

Habitat/Range: Lakes and ponds in the lowland, steppe vegetation and montane zones; common S of 55°N in BC, less frequent northward; circumpolar, N to AK, YT and NT, E to NF and S to MO, VA, TX, MX and CA; Eurasia.

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[17] Key from Casper (1962).

[18] Key from Ceska and Bell (1973).

LIMNANTHACEAE

LIMNANTHES

Limnanthes macounii **Trel.**
Macoun's meadow-foam
Habitat/Range: Wet depressions, vernal pools and seepage sites in the lowland zone; rare on SE Vancouver Island and adjacent islands; endemic.

LINACEAE

LINUM

1. Plants perennials; inner sepals entire; leaves linear, 3-nerved only at the base . . . . *L. perenne*
1. Plants annuals, biennials or perennials; inner sepals usually ciliate; leaves linear-lanceolate, 3-nerved at least 1/2 their length.
    2. Plants annuals; capsules 10 mm long, or more; seeds with a short obtuse beak . . . . *L. usitatissimum*
    2. Plants biennials or perennials; capsules about 6 mm long; seeds beakless . . . . *L. bienne*

Linum bienne **Mill.** (*L. angustifolium* Huds.)
Pale flax
Habitat/Range: Fields; rare, known only from Sandspit, Queen Charlotte Islands and New Westminster; introduced from Europe.

Linum perenne **L. ssp. *lewisii* (Pursh) Hult.** (*L. lewisii* Pursh)
Western blue flax
Habitat/Range: Dry sites from the lowland and steppe vegetation to subalpine zones; frequent in SC and NE BC, less frequent in SW and SE BC; N to AK, YT and NT, E to PQ and S to NM, AZ, CA and MX.

Linum usitatissimum **L.**
Common flax
Habitat/Range: Roadsides, fields and waste places; rare on SE Vancouver Island; introduced from Eurasia.

LOASACEAE

MENTZELIA

1. Plants biennials or perennials; petals 2.5-8 cm long; seeds flattened . . . . *M. laevicaulis*
1. Plants annuals; petals 0.2-0.6 cm long; seeds not flattened.
    2. Seeds obscurely tuberculate-muricate and apparently smooth under 10X magnification; flower bracts mostly ovate to ovate-lanceolate; inflorescence congested . . . . *M. dispersa*
    2. Seeds obviously tuberculate-muricate under 10X magnification; flower bracts narrowly to broadly lanceolate; inflorescence not congested . . . . *M. albicaulis*

Mentzelia albicaulis **(Dougl. ex Hook.) T.& G.** (*M. gracilis* [Rydb.] Thomps. & Lewis)
Small-flowered or white-stemmed evening star or mentzelia
Habitat/Range: Dry, sandy sites in the steppe vegetation zone; locally frequent in SC BC; S to MT, NM, AZ and CA.
Notes: Difficult to separate from *M. dispersa* unless seeds are available.

Mentzelia dispersa **S. Wats.**
Bushy mentzelia
Habitat/Range: Dry sites in the steppe vegetation zone; rare in SC BC; S to CO and CA.

Mentzelia laevicaulis **(Dougl. ex Hook.) T.& G.**
Blazing-star, or blazing-star mentzelia
Habitat/Range: Dry sites in the steppe vegetation and lower montane zones; frequent in SC BC; S to MT, UT and CA.
Notes: Two intergradient varieties are recognized in BC.

1. Petals at least 4 cm long; fruits usually over 2 cm long . . . . var. *laevicaulis*
1. Petals 1.5-4 cm long; fruits usually less than 2 cm long . . . . .var. *parviflora* (Dougl. ex Hook.) C.L. Hitchc.

LORANTHACEAE

ARCEUTHOBIUM[19]

1. Flowers sessile or the pistillate ones with pedicels up to 1 mm long, usually in pairs at each node; stems often over 2 mm thick and at least 3 cm long; plants parasitic on many genera of Pinaceae . . . . *A. campylopodium*
1. Flowers terminal on short lateral branches, the branches bearing the staminate flowers often more than 2 per node; stems scarcely as much as 2 mm thick and usually less than 3 cm long; plants parasitic on *Pinus* or *Pseudotsuga*.
   2. Secondary branches of twigs lying in the same plane, thus flat and fanlike; stems scarcely 1 mm thick; plants parasitic on *Pseudotsuga* . . . . *A. douglasii*
   2. Secondary branches of twigs distinctly whorled, not fanlike; stems over 1 mm thick; plants parasitic on *Pinus* . . . . *A. americanum*

Arceuthobium americanum **Nutt. ex. Engelm. in A. Gray**
American dwarf mistletoe
Habitat/Range: Parasitic on *Pinus* in lowland, steppe vegetation and montane zones; infrequent in S BC, rare W of Coast-Cascade Mountains; E to ON and S NM and CA.

Arceuthobium campylopodium **Engelm. in A. Gray**
Western dwarf mistletoe
Habitat/Range: Parasitic on Pinaceae in the lowland, steppe vegetation and montane zones; infrequent in S BC, rare on the Queen Charlotte Islands; E to PQ and NB and S to TN, KS, MX and CA.

Arceuthobium douglasii **Engelm. ex L.C. Wheeler**
Douglas' dwarf mistletoe
Habitat/Range: Parasitic on *Pseudotsuga* in the montane zone; infrequent in SC and SE BC; S to MT, CO, UT and CA.

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[19] Key adapted from Hitchcock and Cronquist (1973).

LYTHRACEAE[20]

1. Hypanthium elongate-cylindric to conic, several times as long as thick; petals 5-7, purple, usually showy . . . . *Lythrum*
1. Hypanthium campanulate to hemispheric; petals usually 4, white to purple, not showy.
    2. Styles usually exserted from the calyx, at least1 mm long; leaves sessile, cordate-clasping at the base, more than 1 flower per axil . . . . *Ammannia*
    2. Styles not exserted from the calyx, less than 1 mm long; leaves usually petiolate, not cordate based; usually bearing only 1 flower per axil.
        3. Plants decumbent and rooting at nodes; leaves spathulate, broadest toward tip, abruptly narrowing to petiole; calyx lobes and bracts between lobes long attenuate; calyx strongly nerved . . . . *Peplis*
        3. Plants erect, not rooting at nodes; leaves lanceolate, broadest near middle, gradually tapering to petiole; calyx lobes and bracts broadly triangular; calyx not strongly nerved . . . . *Rotala*

AMMANNIA

Ammannia coccinea **Rottb.**

Scarlet ammannia

Habitat/Range: Wet sites (often alkaline) in the steppe vegetation zone; rare in SC BC, known only from Osoyoos, SC BC; E to ON and S to MN, IL, OH, NE, TX, FL and MX.

LYTHRUM

1. Leaves mostly opposite, larger ones 3-10 cm, more or less cordate; petals 7-10 mm long . . . . *L. salicaria*
1. Leaves opposite below, alternate above, larger ones 2-5 cm long, not cordate; petals 4-5 mm long . . . . *L. alatum*

Lythrum alatum **Pursh**

Winged loosestrife

Habitat/Range: Wet to dry sites in the montane zone; rare in SC BC, known only from Griffin Lake; native status uncertain; SD and ON S to LA, GA and TX.

Lythrum salicaria **L.**

Purple loosestrife

Habitat/Range: Wet meadows and marshes in the lowland zone; infrequent on S Vancouver Island and the lower Fraser Valley; introduced from Eurasia.

PEPLIS

Peplis portula **L.** (*Lythrum portula* [L.] D.A. Webb)

Water-purslane

Habitat/Range: Riverbanks and disturbed, moist sites in the lowland zone; rare, known only from recent collections in Coquitlam; introduced from Europe.

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[20] Key adapted from Hitchcock *et al.* (1961).

ROTALA

Rotala ramosior **(L.) Koehne in von Martius**
Toothcup meadow-foam
Habitat/Range: Wet sites and lake shores in the steppe vegetation zone; rare in SC BC, known only from Osoyoos and Kamloops; S to NH, FL and MX; W Indies.

MALVACEAE[21]

1. Stigmas terminal and capitate.
    2. Petals usually more than 2 cm long; leaves 4-15 cm long; carpels smooth on the sides, dehiscent full length . . . . *Iliamna*
    2. Petals 1-2 cm long; leaves 2-6 cm long; carpels strongly reticulate on the basal half of the sides . . . . *Sphaeralcea*
1. Stigmas extending full length on the inner surfaces of the style branches.
    3. Calyces with bracts at the base; carpels beakless . . . . *Malva*
    3. Calyces usually bractless; carpels beaked . . . . *Sidalcea*

ILIAMNA

Iliamna rivularis **(Dougl. ex Hook.) Greene** (*Sphaeralcea rivularis* [Dougl. ex Hook.] T.& G.)
Streambank globe-mallow, or mountain hollyhock
Habitat/Range: Moist to mesic sites in the steppe vegetation and lower montane zones; infrequent in S BC east of the Coast-Cascade Mountains; S to CO and OR.

MALVA[22]

1. Upper cauline leaves dissected into linear segments; petals 2-3 cm long . . . . *M. moschata*
1. Upper cauline leaves shallowly lobed; petals 1-2 cm long.
    2. Petals (1) 1.5-2 cm long; calyx bracteoles ovate or oblong . . . . *M. sylvestris*
    2. Petals usually less than 1.5 cm long; calyx bracteoles linear.
        3. Carpels rounded and smooth (minutely puberulent) on the back; petals 2-4 times as long as the calyces . . . . *M. neglecta*
        3. Carpels flattened and wrinkled on the back; petals from shorter to only slightly longer than the calyces.
            4. Petal claws glabrous; carpels with narrowly winged, minutely toothed angles . . . . *M. parviflora*
            4. Petal claws ciliate or bearded; carpels with acute wingless angles . . . . *M. pusilla*

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[21] Key adapted from Hitchcock *et al.* (1961).

[22] Ibid.

Malva moschata **L.**
Musk mallow
Habitat/Range: Roadsides and waste places; frequent garden escape in SE BC and the lower Fraser Valley; introduced from Eurasia.

Malva neglecta **Wallr.**
Dwarf mallow
Habitat/Range: Roadsides and waste places; infrequent in S BC; introduced from Eurasia.

Malva parviflora **L.**
Small-flowered mallow
Habitat/Range: Waste places; rare in SW BC; introduced from Europe.

Malva pusilla **Smith in Sowerby** (*M. rotundifolia* L.)
Small mallow
Habitat/Range: Roadsides and waste places; rare in S BC; introduced from Europe.

Malva sylvestris **L.**
Common mallow
Habitat/Range: Roadsides and waste places; rare on S Vancouver Island and the Gulf Islands; introduced from Europe.

SIDALCEA

1. Stems fistulose; plants rhizomatous . . . . *S. hendersonii*
1. Stems not fistulose; plants nonrhizomatous . . . . *S. oregana*

Sidalcea hendersonii **S. Wats.**
Henderson's checker-mallow
Habitat/Range: Wet meadows and tidal flats in the lowland zone; rare on S Vancouver Island, the Gulf Islands and adjacent lower mainland; S to OR.

Sidalcea oregana **(Nutt.) A. Gray var. oregana**
Oregon checker-mallow
Habitat/Range: Dry sites in the steppe vegetation and lower montane zones; rare in SC BC; S to WY, UT and CA.

SPHAERALCEA[23]

1. Leaves crenate to lobed less than halfway to the midvein; calyces with bracts . . . . . . *S. munroana*
1. Leaves deeply parted nearly to the midvein; calyces without bracts . . . . *S. coccinea*

Sphaeralcea coccinea **(Nutt.) Rydb.**
Scarlet globe-mallow
Habitat/Range: Dry sites in the steppe vegetation and lower montane zones; rare in SC and SE BC; E to MB and S to IA, TX, UT and OR.

Sphaeralcea munroana **(Dougl. ex Lindl.) Spach ex A. Gray**
Munroe's globe-mallow
Habitat/Range: Dry sites in the steppe vegetation zone; rare in SC BC; S to MT, UT and CA.

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[23] Key adapted from Hitchcock *et al.* (1961).

MENYANTHACEAE[24]

1. Leaves trifoliate, not crenate; corollas bearded with narrow hairlike scales . . . . *Menyanthes*
1. Leaves simple, crenate; corollas crested with fringed scales running the length of the lobes . . . . *Fauria*

FAURIA

Fauria crista-galli **(Menzies ex Hook.) Makino** (*Nephrophyllidium crista-galli* [Menzies ex Hook.] Gilg)

Deer-cabbage

Habitat/Range: Bogs, marshes and wet meadows in the lowland and montane zones; common in coastal BC; amphiberingian, N to AK and S to N WA; Japan.

MENYANTHES

Menyanthes trifoliata L.

Buckbean

Habitat/Range: Bogs, shallow ponds and lakesides in the lowland, montane and steppe vegetation zones; common throughout BC; circumpolar, N to AK, YT an NT, E to NF and S to MO, CO and CA; Iceland, Eurasia.

MOLLUGINACEAE

MOLLUGO

Mollugo verticillata L.

Common carpetweed

Habitat/Range: Wet to mesic sites in the lowland and montane zones; rare in the lower Fraser Valley and SC BC; E to NB and NS and S to TX, CA and MX, possibly native only to tropical America.

MORACEAE

MORUS

Morus alba L.

White mulberry

Habitat/Range: Disturbed sites; rare in SC BC; introduced from Asia.

MYRICACEAE

MYRICA

1. Plants evergreen, monoecious, 2-6 m tall; leaves usually acute . . . . *M. californica*
1. Plants deciduous, dioecious, 0.5-2 m tall; leaves usually obtuse . . . . *M. gale*

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[24] Key from Hitchcock *et al.* (1959).

Myrica californica **Cham. & Schlecht.**
California wax-myrtle or bayberry
Habitat/Range: Mesic to moist forests, disturbed areas and roadsides in the lowland zone; rare in SW BC, known only from the Tofino-Ucluelet area; S to CA.

Myrica gale **L.**
Sweet gale
Habitat/Range: Wet swamps and bogs in the lowland and montane zones; common in coastal BC, rare in NE BC; circumboreal, N to AK, YT and NT, E to NF and S to MN, TN, NC and OR; Eurasia.

NYCTAGINACEAE

1. Flowers sessile in rounded heads; involucral bracts distinct; fruits winged; plants of coastal sand dunes . . . . *Abronia*

1. Flowers pedicellate in panicles; involucral bracts fused, forming a cup; fruits ribbed, but not winged; plants of SC and SE BC . . . . *Mirabilis*

ABRONIA

Abronia latifolia **Eschsch.**
Yellow sand-verbena
Habitat/Range: Coastal beaches and sand dunes in the lowland zone; infrequent on the Queen Charlotte Islands, Vancouver Island and the Gulf Islands; S to CA.

MIRABILIS

1. Inflorescences glandular; leaves subsessile, with rounded or attenuate bases . . . . *M. hirsuta*

1. Inflorescences non-glandular (usually nearly glabrous); leaves distinctly petiolate, with cordate bases . . . . *M. nyctaginea*

Mirabilis hirsuta **(Pursh) MacM.** (*Allionia hirsuta* Pursh, *Oxybaphus hirsutus* [Pursh] Sweet)
Hairy umbrellawort
Habitat/Range: Dry, disturbed sites, streambeds and sagebrush hillsides in the steppe vegetation zone; rare in S BC east of the Coast-Cascade Mountains; E to MB and S to AZ, TX and MO.

Mirabilis nyctaginea **(Michx.) MacM.** (*Allionia nyctaginea* Michx., *Oxybaphus nyctagineus* [Michx.] Sweet)
Umbrellawort
Habitat/Range: Waste places in the montane zone; rare in C BC, known only from Salmon Arm; introduced from C and E North America.

NYMPHAEACEAE[25]

1. Sepals and petals each 3, sometimes 4, purplish; leaves peltate; pistils several . . . . *Brasenia*

1. Sepals and petals 4 to many, greenish, yellow or white (purple-tinged); leaves cordate; pistils solitary.

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[25] Key adapted from Hitchcock and Cronquist (1973).

  2. Sepals 5-12, larger and more showy than the petals; petals greenish to bright yellow; stigmas 1, discoid; ovaries superior . . . . *Nuphar*
  2. Sepals 4, about as large as the petals but not as showy; petals white or pinkish; stigmas 10-30, spreading; ovaries partially inferior . . . . *Nymphaea*

BRASENIA

Brasenia schreberi **Gmel.**
Watershield
Habitat/Range: Ponds and slow-moving streams in the lowland, steppe vegetation and montane zones; common in SW BC, less frequent in SC BC; N to SE AK, E to NB and NS and S to FL, TX and CA, Cuba, Central America.

NUPHAR

1. Sepals 6-8, usually 6, 2.5-3.5 cm long; stamens yellow; seeds about 5 mm long . . . . *N. variegatum*
1. Sepals 8-17, usually 9, (3) 3.5-6 cm long; stamens reddish or purplish; seeds about 4 mm long . . . . *N. polysepalum*

Nuphar polysepalum **Engelm.** (*N. lutea* [L.] Sibthorp & Smith ssp. *polysepalum* [Engelm.] Beal)
Rocky Mountain cow-lily, or spatterdock
Habitat/Range: Ponds and slow-moving streams in the lowland, steppe vegetation and montane zones; common in BC S of 55°N, rare in NW BC; N to AK, YT and NT and S to SD, CO and CA.

Nuphar variegatum **Engelm. ex Durand** (*N. lutea* [L.] Stibthorp & Smith ssp.*variegatum* [Engelm. ex Durand] Beal)
Yellow waterlily or pond-lily or bullhead-lily
Habitat/Range: Ponds and slow-moving streams in the steppe vegetation and montane zones; frequent in E BC; N to YT and NT, E to NF and S to DE, OH, NE, MT and N ID.

NYMPHAEA[26]

1. Leaves 3.5-8 cm wide; flowers 2.5-5 cm wide . . . . *N. tetragona*
1. Leaves 8-30 cm wide; flowers 5-12.5 cm wide.
  2. Flowers yellow; leaves dark green and brown-blotched above, brownish with blackish dots below . . . . *N. mexicana*
  2. Flowers white, pink or rose-colored; leaves without blotches or dots.
    3. Leaves crowded on the rhizome; petals 12-24 . . . . *N. alba*
    3. Leaves scattered loosely on the rhizome; petals 20-32 . . . . *N. odorata*

Nymphaea alba **L.**
European white waterlily
Habitat/Range: Ponds and lakes in the lowland and montane zones; rare on SE Vancouver Island and at Clearwater; introduced from Europe.

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[26] Key adapted from Bailey (1949).

Nymphaea mexicana **Zucc.**
Yellow waterlily
Habitat/Range: Ponds and lakes in the lowland zone; rare on SE Vancouver Island; introduced from Mexico.

Nymphaea odorata **Ait.**
Fragrant waterlily
Habitat/Range: Lakes, ponds and slow-moving streams in the lowland, steppe vegetation and lower montane zones; rare in SW and SC BC; introduced from E North America.

Nymphaea tetragona **Georgi**
Pygmy waterlily
Habitat/Range: Lakes, ponds and slow-moving streams in the lowland and montane zone; rare, scattered from the central coast and interior northward; circumpolar, N to AK, YT and NT, E to PQ and S to ME, RI, WA and ID; N Europe, E Asia.

OLEACEAE

1. Leaves pinnately compound; corollas absent; fruits a dry winged samara; plants native trees . . . . *Fraxinus*
1. Leaves simple; corollas present, white; fruits a hard blackish berry; plants introduced shrubs . . . . *Ligustrum*

FRAXINUS

Fraxinus latifolia **Benth.** (*F. oregana* Nutt.)
Oregon ash
Habitat/Range: Swamps and estuaries in the lowland zone; rare on W Vancouver Island; S to CA.

LIGUSTRUM

Ligustrum vulgare **L.**
Common privet
Habitat/Range: Waste places, roadsides and disturbed sites; infrequent garden escape on SE Vancouver Island and the lower mainland; introduced from Europe.

ONAGRACEAE

1. Flowers lacking petals; sepals persistent after flowering . . . . *Ludwigia*
1. Flowers with petals; sepals deciduous after flowering.
    2. Flowers 2-merous; fruit with hooked barbs . . . . *Circaea*
    2. Flowers 4-merous; fruit lacking hooked barbs.
        3. Fruits hard, indehiscent, 1-4 seeded . . . . *Gaura*
        3. Fruits dehiscent at maturity, many seeded.
            4. Seeds with tuft of hairs at one end . . . . *Epilobium*
            4. Seeds lacking tuft of hairs.

5. Calyx lobes erect at flowering . . . . *Boisduvalia*
5. Calyx lobes spreading or reflexed at flowering.
    6. Stigmas capitate.
        7. Petals pink to white; fruits mostly stalked . . . . *Gayophytum*
        7. Petals yellow; fruits sessile . . . . *Camissonia*
    6. Stigmas 4-lobed.
        8. Petals pink to purple; anthers attached to filaments near their base . . . . *Clarkia*
        8. Petals yellow or white (sometimes fading pink); anthers attached to filaments near middle . . . . *Oenothera*

BOISDUVALIA

1. Capsules beakless; floral leaves crowded; petals 3-8 mm long . . . . *B. densiflora*
1. Capsules with prominent, often curved beak; floral leaves generally few and not crowded; petals 1.5-2 mm long.
    2. Leaves usually entire; capsules pubescent; rare on S Vancouver Island . . . . *B. stricta*
    2. Leaves usually toothed; capsules glabrous; rare in BC east of the Coast-Cascade Mountains . . . . *B. glabella*

***Boisduvalia densiflora* (Lindl.) S. Wats.**
Dense spike-primrose
Habitat/Range: Moist, open sites in the lowland zone; rare on S Vancouver Island; S to MX and E to AB, MT, ID and NV.

***Boisduvalia glabella* (Nutt.) Walp.**
Smooth spike-primrose
Habitat/Range: Vernally moist sites in the steppe vegetation zone; rare in BC east of the Coast-Cascade Mountains; S to CA and NV and E to SK, SD and UT; South America.

***Boisduvalia stricta* (Gray) Greene**
Brook spike-primrose
Habitat/Range: Moist open sites in the lowland zone; rare on S Vancouver Island; S to CA, E to ID and NV.

CAMISSONIA

1. Plants stemless; leaves in basal rosette, pinnatifid . . . . *C. breviflora*
1. Plants with leafy stems; leaves entire.
    2. Leaves crowded at ends of stems; base of stems usually bare; capsules less than 1 cm long, usually straight; rare in SC BC . . . . *C. andina*
    2. Leaves scattered along stems; capsules 2-3 cm long, usually curved or coiled; rare on S Vancouver Island . . . . *C. contorta*

***Camissonia andina* (Nutt.) Raven** (*Oenothera andina* Nutt.)
Andean evening-primrose
Habitat/Range: Dry hillsides in the steppe vegetation zone; rare in SC BC east of the Coast-Cascade Mountains, known only from Osoyoos; S to CA, E to SK and WY.

Camissonia breviflora **(T.& G.) Raven** (*Oenothera breviflora* T.& G.)
Short-flowered evening-primrose
Habitat/Range: Dry open areas in the steppe vegetation zone; rare in C BC; E to SK, S to UT and CO.

Camissonia contorta **(Dougl. ex Hook.) Kearney in Britt. & Kearney** (*Oenothera contorta* Dougl. ex Hook.)
Contorted-podded evening-primrose
Habitat/Range: Open, sandy areas in the lowland zone; rare on S Vancouver Island; S to CA, NV and ID.

CIRCAEA

Circaea alpina **L.**
Enchanter's-nightshade
Habitat/Range: Moist forests in the lowland and montane zones; frequent throughout BC; circumboreal, N to AK and NT, E to NF and S to GA, SD, CO and CA, Eurasia.
Notes: Two subspecies occur in BC:

1. Stems glabrous; leaf bases cordate; plants from throughout BC . . . . ssp. *alpina*
1. Stems pubescent; leaf bases subcordate to truncate; plants from coastal and S BC . . . . ssp. *pacifica* (Asch. & Magnus) Raven in Calder & Taylor

CLARKIA

1. Petals not narrowing to a claw at base; flowers regular . . . . *C. amoena*
1. Petals with distinct narrow claw at base; flowers slightly irregular (petals often unevenly spaced).
    2. Petals 3-lobed; fertile stamens 4; leaves often alternate . . . . *C. pulchella*
    2. Petals not 3-lobed; fertile stamens 8; leaves opposite . . . . *C. rhomboidea*

Clarkia amoena **(Lehm.) Nels. & Macbr.**
Farewell-to-spring, or godetia
Habitat/Range: Dry, grassy areas in the lowland zone; rare on S Vancouver Island and the adjacent Gulf Islands; S to CA.
Notes: Two sympatric varieties occur in BC:

1. Stigmatic lobes oval, usually not over 2 mm long; petals usually less than 2 cm long . . . . var. *caurina* (Abrams) C.L. Hitchc.
1. Stigmatic lobes linear, usually over 2 mm long; petals usually greater than 2 cm long . . . . var. *lindleyi* (Dougl.) C.L. Hitchc.

Clarkia pulchella **Pursh**
Pink fairies
Habitat/Range: Dry, open areas in the steppe vegetation zone; rare in S BC east of the Coast-Cascade Mountains; S to OR, ID and MT.

Clarkia rhomboidea **Dougl. in Hook.**
Common clarkia
Habitat/Range: Dry, open areas in the lower montane zone; rare in SE BC east of the Coast-Cascade Mountains, known only from Trail; S to ID, UT, AZ and CA.

EPILOBIUM[27]

Notes: A very difficult genus that has received many different treatments. Whole plants including underground parts, flowers and mature capsules with seeds are needed for identification of many of the smaller perennial species. The genus is currently under revision by Peter C. Hoch at Missouri Botanical Garden and treatment follows the work being done by him.

1. Plants taprooted annuals, usually of dry sites; epidermis of lower part of stems exfoliating.
    2. Stems glabrous below inflorescence; glandular-pubescent in infloresence; seeds at least 1 mm long; leaves mostly alternate; plants usually greater than 40 cm tall . . . . *E. brachycarpum*
    2. Stems soft-pubescent throughout; seeds usually less than 1 mm long; leaves mostly opposite below; plants usually less than 40 cm tall.
        3. Petals less than 2 mm long; mid-cauline leaves often less than 2 mm wide, subacuminate, often folded on midrib; with fascicled short, lateral branches in axils of major cauline leaves; seeds 0.65-0.85 mm . . . . *E. foliosum*
        3. Petals 2-4 mm long; mid-cauline leaves 2-4 mm wide, subacute, usually flat; usually lacking fascicled short, lateral branches in axils of major cauline leaves; seeds 0.85-1.2 mm . . . . *E. minutum*
1. Plants fibrous-rooted, clumped or rhizomatous perennials, usually not of dry sites; epidermis of lower part of stems not exfoliating.
    4. Stigmas 4-lobed; petals greater than 1 cm long.
        5. Petals notched at tip; floral tube prolonged above ovary; flowers regular; leaves opposite below inflorescences.
            6. Petals yellow; leaves glabrous; plants clumped (or with short rhizomes), usually less than 7 dm tall . . . . *E. luteum*
            6. Petals purple; leaves pubescent; plants strongly rhizomatous, much greater than 7 dm tall . . . . *E. hirsutum*
        5. Petals rounded at tip; floral tube absent; flowers irregular; leaves alternate throughout.
            7. Plants rhizomatous, usually greater than 1 m tall; leaves 10-20 cm long; floral bracts linear, much smaller than leaves; inflorescences usually at least 15-flowered . . . . *E. angustifolium*
            7. Plants clumped, usually less than 40 cm tall; leaves less than 6 cm long; floral bracts broad, leaf-like; inflorescences usually fewer than 12-flowered . . . . *E. latifolium*
    4. Stigmas entire or slightly 4-angled; petals less than 1 cm long.
        8. Plants gray-strigillose, at least in the inflorescences; leaves linear to narrowly lanceolate (usually less than 3 mm wide).
            9. Capsules subglabrous, at least toward tip; leaf margins flat, not revolute, often finely serrulate; plants usually 5-20 cm tall; plants lacking stolons with turions; basal rosettes present . . . . *E. davuricum*
            9. Capsules strigillose throughout; leaf margins revolute, entire; plants usually at least 30 cm tall; plants forming stolons with condensed turions at tips (these often absent in pressed specimens); basal rosettes absent.

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[27] Key adapted from Hoch in Packer (1983).

10. Leaves uniformly gray-strigillose above; inflorescences erect in bud . . . . *E. leptophyllum*

10. Leaves nearly glabrous above, or strigillose only along midrib or margins; inflorescences drooping in bud . . . . *E. palustre*

8. Plants usually glabrous or predominately glandular-pubescent, not gray-strigillose; leaves lanceolate to oblong (usually greater than 3 mm wide).

11. Stems lacking raised hairy lines decurrent from leaf bases.

12. Plants nearly glabrous.

13. Cauline leaves narrowly lanceolate to sublinear; leaves crowded at base of plants; plants slender, loosely or not clumped . . . . *E. oregonense*

13. Cauline leaves lanceolate or wider; leaves more or less evenly distributed along stems; plants more robust, very clumped, often glaucous . . . . *E. glaberrimum*

12. Plants pubescent all around stems.

14. Plants strigillose all around; loosely or not clumped, forming condensed basal turions . . . . *E. mirabile*

14. Plants glandular all around; densely clumped from wiry bases, forming short loose basal soboles . . . . *E. glareosum*

11. Stems with raised hairy lines decurrent from leaf bases.

15. Plants clumped or caespitose, forming short, leafy, epigaeous stolons; stem-bases decumbent to ascending.

16. Stems 3-22 cm tall; cauline leaves subentire; capsules 1.7-4.0 cm long.

17. Inflorescences nodding in bud, generally glabrous; leaves oblong-elliptic to narrowly-ovate; seeds 0.7-1.4 mm long, usually reticulate, the coma persistent; roots slender, loose, short . . . . *E. anagallidifolium*

17. Inflorescences erect in bud, strigillose, and usually glandular-pubescent; leaves ovate to narrowly-elliptic; seeds 1.3-2.0 mm long, papillose, the coma readily detached; roots wiry, tangled, extended . . . . *E. clavatum*

16. Stems 10-50 cm tall; cauline leaves denticulate, rarely entire; capsules 4-10 cm long.

18. Petals white; inflorescences mostly nodding in bud; pedicels in fruit 2.0-4.5 cm long; seeds 1.1-1.6 mm long, reticulate . . . . *E. lactiflorum*

18. Petals pink to rose-purple; inflorescences mostly erect in bud; pedicels in fruit 0.5-2.5 cm long; seeds 0.9-1.2 mm long, distinctly papillose . . . . *E. hornemannii*

15. Plants not clumped, or loosely so, forming sessile, leafy rosettes or fleshy turions; stem-bases erect.

19. Turions present; gemmae often present in the upper leaf-axils; inflorescences strigillose, eglandular; coma reddish-brown, persistent . . . . *E. leptocarpum*

19. Turions present or absent; gemmae absent; inflorescences predominately glandular mixed with strigillose hairs; coma white or dingy, readily detached.

20. Plants 0.3-20.0 dm, forming rosettes or large turions; seeds longitudinally striate with hyaline crests or ridges, but lacking distinct papillae . . . . *E. ciliatum*

20. Plants 0.2-6.0 dm, lacking rosettes, only compact hypogaeous turions present; seeds distinctly papillose, the papillae often in longitudinal rows.

    21. Leaves sessile, clasping, mostly narrowly-ovate, denticulate; turions fleshy, elongate; capsules subsessile, appressed; seed-collar conspicuous . . . . *E. saximontanum*

    21. Leaves petiolate or subsessile, not clasping, lanceolate or narrower, subentire or denticulate; turions compact, round; capsules on pedicels 0.8-3.8 cm long; seed-collar inconspicuous . . . . *E. halleanum*

***Epilobium anagallidifolium* Lam.** (*E. alpinum* L., pro parte)
Alpine willowherb
Habitat/Range: Mossy, rocky slopes and open meadows in all vegetation zones; rare at low elevations, common at higher elevations throughout BC, especially northward; circumboreal, N to AK, YT and NT, E to NF, S to CA, CO and ME; Eurasia.

***Epilobium angustifolium* L.** (*Chamaenerion angustifolium* [L.] Scop.)
Fireweed
Habitat/Range: Open forests, roadsides, burns, clearings and waste places in all vegetation zones; common throughout BC (ssp. *circumvagum* more common along coast than interior); circumboreal, N to AK, YT and NT, E to NF, and S to CA and VA; Eurasia.
Notes: Two sympatric subspecies occur in BC:

1. Leaves long attenuate, subsessile, often less than 2 cm wide and 10 cm long; midrib glabrous beneath . . . . ssp. *angustifolium*

1. Leaves blunt to acute (rarely attenuate), with petioles 1-7 mm, mostly over 2 cm wide and 10 cm long; midrib glabrous to pubescent beneath . . . . ssp. *circumvagum* Mosquin

***Epilobium brachycarpum* Presl** (*E. paniculatum* Nutt. ex T.& G.)
Tall annual willowherb
Habitat/Range: Dry, open sagebrush slopes and disturbed areas in the lowland, steppe vegetation and lower montane zones; common, especially east of the Coast-Cascade Mountains; E to PQ and S to NB and CA.

***Epilobium ciliatum* Raf.** (*E. adenocaulon* Hausskn. and *E. watsonii* var. *occidentale* [Trel.] Hitchc. = ssp. *ciliatum*; *E. brevistylum* Barbey, *E. delicatum* Trel. and *E. glandulosum* Lehm. = ssp. *glandulosum*; *E. watsonii* Barbey var. *franciscanum* [Barbey] Jeps. and E. *watsonii* var. *watsonii* = ssp. *watsonii*)
Purple-leaved willowherb
Habitat/Range: Disturbed places, roadsides, fields and wet areas from the lowland to montane zones; extremely common throughout BC (ssp. *ciliatum*) to infrequent (ssp. *glandulosum*), or rare (ssp. *watsonii*) along coast; amphiberingian, N to AK, YT and NT, E to NF and S to CA, TX and NC; E Asia.
Notes: Three subspecies occur in BC:

1. Cauline leaves relatively narrow and not crowded around inflorescences; plants usually branched above; petals white to pale pink or purple . . . . ssp. *ciliatum*

1. Cauline leaves broad and often crowded around inflorescences; plants usually unbranched above; petals dark purple.

2. Underground turions present; inflorescences loose, extended . . . . ssp. *glandulosum* (Lehm.) Hoch & Raven
2. Underground turions absent; inflorescences subcorymbose . . . . ssp. *watsonii* (Barbey) Hoch & Raven

***Epilobium clavatum* Trelease** (*E. alpinum* L. var. *clavatum* [Trel.] C.L. Hitchc.)
Club-fruited willowherb
Habitat/Range: Moist, rocky or grassy slopes in the montane and alpine zones; common throughout BC; N to AK, YT and NT, S to CA and E to CO and UT.
Notes: Similar to and often confused with *E. glareosum.*

***Epilobium davuricum* Fisch. ex Hornem.**
Swamp willowherb
Habitat/Range: Wet meadows and boggy areas in the montane to alpine zones; rare in BC, known only from Spatsizi Plateau and the Selkirk Mountains; circumpolar, N to AK and YT; E to NF; Eurasia.

***Epiliobium foliosum* (T.& G.) Suksd.** (*E. minutum* Lindl. var. *foliosum* T.& G.)
Foliose willowherb
Habitat/Range: Dry rock outcrops and grassy bluffs in the lowland and steppe vegetation zones; rare in S and W BC; S to CA.
Notes: Similar to and often confused with *E. minutum.*

***Epilobium glaberrimum* Barbey ssp. *fastigiatum* (Nutt.) Hoch & Raven**
Smooth willowherb
Habitat/Range: Streambanks and open moist forests in the montane zone; rare in S BC; S to CA and E to AB, MT and UT.

***Epilobium glareosum* G.N. Jones** (*E. clavatum* Trel. var. *glareosum* [G.N. Jones] Munz)
Gravelly willowherb
Habitat/Range: Moist scree slopes and gravelly areas in the montane and subalpine zones; rare on Vancouver Island; S to WA and MT.
Notes: Similar to and often confused with *E. clavatum.*

***Epilobium halleanum* Hausskn.** (*E. glandulosum* Lehm. var. *macounii* [Trel.] C.L. Hitchc.)
Hall's willowherb
Habitat/Range: Moist slopes and open forests in the montane zone; rare throughout BC; E to W SK and S to SD, CO, AZ and CA.

***Epilobium hirsutum* L.**
Hairy willowherb
Habitat/Range: Roadside ditches and moist waste places in the lowland zone; rare, recent introduction in the lower Fraser Valley; introduced from Eurasia.

***Epilobium hornemannii* Reichenb.** (*E. alpinum* L. var. *nutans* [Hornem.] Hook. = ssp. *hornemannii*; *E. behringianum* Hausskn. and *E. boreale* Hausskn. = ssp. *behringianum*)
Hornemann's willowherb
Habitat/Range: Wet rocky cliffs and river banks in the montane zone; frequent throughout BC, especially along coast (ssp. *hornemannii*) to rare (ssp. *behringianum*, found only in the Queen Charlotte Islands); circumboreal, N to AK, YT and NT; E to PQ and NF and S to ME, NM and CA; E Asia.
Notes: Two subspecies occur in BC:

1. Flowering plants with several pairs of broad, withered, persistent leaves at base; leaves relative thick, margins sharply toothed . . . . . ssp. *behringianum* (Hausskn.) Hoch & Raven

1. Flowering plants lacking broad, withered leaves at base; leaves relatively thin, margins entire or bluntly toothed . . . . ssp. *hornemannii*

***Epilobium lactiflorum* Hausskn.** (*E. alpinum* L. var. *lactiflorum* [Hausskn.] C.L. Hitchc.)
White-flowered willowherb
Habitat/Range: Wet meadows in the montane to alpine zones; common throughout BC; circumboreal, N to AK, E to NF and S to NH, CO and CA; Eurasia.

***Epilobium latifolium* L.** (*Chamaenerion latifolium* [L.] Sweet)
Broad-leaved willowherb
Habitat/Range: River bars and scree slopes in the montane and alpine zones; common throughout BC, especially northward; circumpolar, N to AK, YT and NT and S to PQ, SD, CO and CA; Eurasia.

***Epilobium leptocarpum* Hausskn.** (*E. glandulosum* Lehm. var. *tenue* [Trel.] C.L. Hitchc., *E. leptocarpum* var. *macounii* Trel.)
Small-flowered willowherb
Habitat/Range: Moist meadows and streambanks in the montane to alpine zones; rare throughout BC; N to AK and S to MT, ID and OR.

***Epilobium leptophyllum* Raf.**
Narrow-leaved willowherb
Habitat/Range: Bogs, marshes and wet meadows in the montane zone; infrequent in E and N BC; N to NT, E to NF and S to NC, CO and CA.

***Epilobium luteum* Pursh**
Yellow willowherb
Habitat/Range: Moist openings in forests and streambanks in the montane zone; infrequent in S and W BC, rare northward; N to AK, E to SW AB and S to CA.
Notes: Hybrids occur rarely between this species and others in BC. They resemble *E. luteum* with pink petals greater than 1 cm long. Hybrids between *E. luteum* and *E. ciliatum* ssp. *glandulosum* have been called *E.* x *treleasianum* Lev.

***Epilobium minutum* Lindl. ex Lehm. in Hook.**
Small-flowered willowherb
Habitat/Range: Rocky bluffs and vernally wet areas in the lowland to lower montane zones; frequent in S and W BC; S to CA and E to MT.
Notes: Similar to and often confused with *E. foliosum*.

***Epilobium mirabile* Trelease**
Hairy-stemmed willowherb
Habitat/Range: Moist scree slopes in the montane and subalpine zones; rare in SC BC in the Cascade Mountains, known only from Manning Park; E to SW AB and S to MT and W WA.

***Epilobium oregonense* Hausskn.** (*E. alpinum* L. var. *gracillimum* [Trel.] C.L. Hitchc.)
Oregon willowherb
Habitat/Range: Moist slopes, boggy areas and open forests in the montane zone; rare in BC, known only from Wells Gray Park and Mt. Arrowsmith; S to CA and E to ID and WY.

***Epilobium palustre* L.**
Swamp willowherb
Habitat/Range: Bogs, swamps and streambanks in the steppe vegetation and montane zones; frequent in C and N BC; circumpolar, N to AK, YT and NT, E to NF, and S to NY, WI, CO and CA; Eurasia.

Epilobium saximontanum **Hausskn.**

Rocky Mountain willowherb

Habitat/Range: Moist meadows and streambanks in the montane zone; rare in SE BC, known only from Crowsnest Pass; E to AB, S to E OR, CA and NM; PQ and NF.

Notes: Specimens from Crowsnest Pass may be from the Alberta side of the boundary, but the species should be sought in SE BC.

GAURA

Gaura coccinea **Pursh**

Scarlet gaura

Habitat/Range: Dry sagebrush slopes in the steppe vegetation zone; rare in BC east of the Coast-Cascade Mountains; S to MX and E to MB.

GAYOPHYTUM

1. Capsules sessile or nearly so, not constricted between seeds . . . . *G. humile*
1. Capsules long stalked, constricted between seeds.
   2. Pedicels of capsules usually sharply reflexed; petals 1 mm long or less . . . . *G. ramosissimum*
   2. Pedicels of capsules usually not reflexed; petals greater than 1 mm long . . . . *G. diffusum*

Gayophytum diffusum **T.& G. ssp. *parviflorum* Lewis & Szweykowski** (*G. nuttallii* sensu Hitchcock, et al. [1961] and Munz [1959], not T.& G.)

Spreading groundsmoke

Habitat/Range: Dry, open places in the steppe vegetation zone; infrequent in S BC east of the Coast-Cascade Mountains; S to MX and E to MT, SD and NM.

Gayophytum humile **Juss.** (*G. nuttallii* T.& G.)

Dwarf groundsmoke

Habitat/Range: Dry, sandy, open areas in the montane zone; rare in SC BC east of the Cascade Mountains, known only from Manning Park; S to S CA and E to SW AB, ID, MT and CO; Chile.

Gayophytum ramosissimum **Nutt. ex T.& G.**

Hairstem groundsmoke

Habitat/Range: Dry, open places in the steppe vegetation and lower montane zones; rare in S BC east of the Coast-Cascade Mountains; S to CA and AZ and E to MT, CO, WY and UT.

LUDWIGIA

Ludwigia palustris **(L.) Elliott var. *pacifica* Fern. & Gris.**

Water-purslane

Habitat/Range: Wet sites in the lowland vegetation zone; rare on S Vancouver Island and the lower Fraser River valley; E to NB and S to FL and MX; Africa, Eurasia.

OENOTHERA

1. Petals white . . . . *O. pallida*
1. Petals yellow.

2. Plants perennials; inflorescences usually nodding in bud; flowers opening in morning; petals less than 1 cm long; capsules four-angled in cross-section . . . . *O. perennis*

2. Plants biennials; inflorescences usually erect in bud; flowers opening in evening; petals more than 2 cm long; capsules round in cross-section.

    3. Petals more than 3 cm long; sepals usually red . . . . *O. glazioviana*

    3. Petals less than 3 cm long; sepals usually green.

        4. Plants predominately glandular-hairy; free sepal tips usually 3 mm long . . . *O. biennis*

        4. Plants predominately grayish-strigose; free sepal tips usually 2 mm long . . . *O. villosa*

Oenothera biennis **L.**
Common evening-primrose
Habitat/Range: Disturbed places in the lowland zone; rare in coastal BC; introduced from E North America.

Oenothera glazioviana **Micheli** (*O. erythrosepala* Borbas)
Red-sepaled evening-primrose
Habitat/Range: Roadsides and waste places in the lowland and steppe vegetation zones; infrequent garden escape in S BC, especially along the coast; thought to be originally of garden origin in Eurasia.

Oenothera pallida **Lindl. ssp. *pallida***
Pale evening-primrose
Habitat/Range: Dry sagebrush hills in the steppe vegetation zone; rare in S BC east of the Coast-Cascade Mountains; E to ID and S to AZ and NM.

Oenothera perennis **L.**
Perennial sundrops
Habitat/Range: Grassy places and edges of forests in the lowland zone; rare garden escape on S Vancouver Island and the lower mainland; introduced from E North America.

Oenothera villosa **Thunb.** (*O. strigosa* [Rydb.] Mack. & Bush; *O. depressa* Greene ssp. *strigosa* [Rydb.] Taylor & MacBryde)
Yellow evening-primrose
Habitat/Range: Sagebrush hillsides, roadsides and other disturbed places in the lowland and steppe vegetation zones; infrequent in C and S BC east of the Coast-Cascade Mountains, rare along the coast, where probably introduced; E to MB and SD and S to CA, AZ and NM.

OROBANCHACEAE[28]

1. Corollas 1.5-3.5 cm long; stamens included; plants glandular-pubescent . . . . *Orobanche*

1. Corollas 0.8-1.5 cm long; stamens more or less exserted; plants glabrous . . . . *Boschniakia*

BOSCHNIAKIA

1. Plants 0.8-1.2 dm tall; bracts eciliate; plants of SW BC . . . . *B. hookeri*

1. Plants 1-4 dm tall; bracts, or at least the upper ones, ciliate; plants of extreme N BC . . . . *B. rossica*

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[28] Key adapted from Scoggan (1979).

Boschniakia hookeri Walp. (*B. strobilacea auctt. non* A. Gray)
Vancouver groundcone or poque
Habitat/Range: Parasitic on *Gaultheria shallon* on mesic sites in the lowland zone; rare on S Vancouver Island and the Gulf Islands; S to N CA.

Boschniakia rossica (Cham. & Schlecht.) Fedtsch.
Northern groundcone
Habitat/Range: Parasitic mostly on *Alnus* (but also on *Betula, Salix, Vaccinium, Picea* and *Chamaedaphne*) on moist to mesic sites in the montane zone; rare in extreme N BC; amphiberingian, N to AK, YT and NT; Asia.

OROBANCHE[29]

1. Flowers borne on pedicels more than 3 cm long.
   2. Pedicels usually 4-10, about equal in length to the stems; calyx lobes shorter than or equal to the tubes . . . . *O. fasiculata*
   2. Pedicels 1-3, much longer than the stems; calyx lobes longer than the tubes . . . . . *O. uniflora*
1. Flowers borne on pedicels less than 3 cm long.
   3. Calyces usually 5-8 mm long, lobes about equal to the tubes; corollas yellowish . . . *O. pinorum*
   3. Calyces 10-20 mm long, lobes longer than the tubes; corollas purplish.
      4. Corollas usually 20-40 mm long, lips 10-14 mm long, spreading; plants of SW BC . . . . *O. californica*
      4. Corollas 16-30 mm long, lips 4-9 mm long, erect to spreading; plants of SC BC . . . . *O. corymbosa*

Orobanche californica Cham. & Schlecht. ssp. *californica*
California broomrape
Habitat/Range: Parasitic on *Grindelia integrifolia* and *Ambrosia chamissonis* on sandy beaches in the lowland zone; locally frequent on S Vancouver Island and the Gulf Islands; S to WA.

Orobanche corymbosa (Rydb.) Ferris ssp. *mutabilis* Heckard in Taylor and MacBryde
Flat-topped broomrape
Habitat/Range: Parasitic, mainly on *Artemisia*, on dry sites in the steppe vegetation zone; rare in SC BC; S to MT, WY, UT and NE CA.

Orobanche fasciculata Nutt. var. *fasciculata*
Clustered broomrape
Habitat/Range: Parasitic, mainly on *Artemisia*, on dry sites in the steppe vegetation and lower montane zones; frequent in SC BC; rare northward and eastward; E to ON, S to IN, MI, CA and N MX.

Orobanche pinorum Geyer ex Hook.
Pine broomrape
Habitat/Range: Parasitic on coniferous species; moist to mesic sites in the lowland zone; rare in SW BC, known only from Duncan; S to N ID and NW CA.

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[29] Key adapted from Hitchcock and Cronquist (1973).

Orobanche uniflora **L.** (*O. uniflora* var. *minuta* [Suksd.] Beck = var. *occidentalis* [Greene] Taylor & MacBryde)
Naked broomrape
Habitat/Range: Parasitic on *Sedum*, Saxifragaceae, Asteraceae and others; moist to dry sites in the lowland, steppe vegetation and montane zones; common on SE Vancouver Island, infrequent eastward in S BC; E to NF and S to FL, TX and CA.
Notes: Two varieties are recognized in BC:

1. Anthers glabrous; corollas 1.5-2.5 cm long . . . . var. *occidentalis* (Greene) Taylor & MacBryde
1. Anthers usually more or less woolly; corollas 2-3.5 cm long . . . . var. *purpurea* (Heller) Achey

OXALIDACEAE

OXALIS

1. Flowers white or pinkish; leaves all basal; plants native . . . . *O. oregana*
1. Flowers yellow; leaves cauline; plants introduced.
    2. Plants usually less than 1 dm tall; leaves often brownish, reddish or purplish; hairs of stems, petioles and capsules never septate . . . . *O. corniculata*
    2. Plants usually more than 1 dm tall; leaves green; hairs of stems, petioles and capsules usually septate . . . . *O. stricta*

Oxalis corniculata **L.** (*O. repens* Thunb.)
Yellow oxalis
Habitat/Range: Gardens, fields and waste places; locally frequent on S Vancouver Island, the Gulf Islands and adjacent coast; introduced from Eurasia.

Oxalis oregana **Nutt. ex T.& G.**
Redwood sorrel
Habitat/Range: Moist sites in the lowland zone; rare on the Queen Charlotte Islands and W coast of Vancouver Island; S to CA.

Oxalis stricta **L.**
Upright yellow oxalis
Habitat/Range: Moist disturbed sites and ditches; rare in SW (lower Fraser Valley) and SE (Kootenays) BC; introduced from U.S.

PAPAVERACEAE

1. Leaves entire, cauline ones opposite . . . . *Meconella*
1. Leaves toothed to deeply dissected, cauline ones mostly alternate.
    2. Capsules ovoid to globose, dehiscent under the top; juicy milky . . . . *Papaver*
    2. Capsules narrowly oblong to linear, dehiscent to the base; juice watery or orange-yellow.
        3. Leaves 3-ternately dissected into linear or linear-oblong segments; juice watery . . . . *Eschscholzia*
        3. Leaves pinnately divided or lobed; juice orange-yellow . . . . *Chelidonium*

CHELIDONIUM

Chelidonium majus **L.**
Celandine, or swallowwort
Habitat/Range: Roadsides and fields; rare in SW and SC BC; introduced from Eurasia.

ESCHSCHOLZIA

Eschscholzia californica **Cham. in Nees**
California poppy
Habitat/Range: Roadsides and waste places; infrequent garden escape on SE Vancouver Island; introduced from W U.S.

MECONELLA

Meconella oregana **Nutt. in T.& G.**
White meconella
Habitat/Range: Moist sites in the lowland zone; rare on SE Vancouver Island and the Gulf Islands; S to CA.

PAPAVER[30]

Notes: The taxonomy of *Papaver*, especially of our scapose arctic-alpine species, remains in a confused state. This treatment follows the broad species concept adopted by Kriger (1975) for the genus.

1. Plants caulescent or rarely subscapose, introduced annuals . . . . *P. somniferum*
1. Plants scapose, native perennials.
  2. Hairs on ovaries and capsules basally tuberculate.
    3. Petals salmon-pink to yellow, paler basally; plants of the Rocky Mountains . . . . *P. alpinum*
    3. Plants white to rose with yellow basal spots; plants of NW BC . . . . *P. alboroseum*
  2. Hairs on ovaries and capsules not basally tuberculate.
    4. Stigmatic disks distinctly conic and/or umbonate . . . . *P. macounii*
    4. Stigmatic disks essentially plane.
      5. Plants 6-25 cm tall; petals 1-2.5 cm long; scapes moderately to densely hispid . . . . *P. lapponicum*
      5. Plants 25-50 cm tall; petals 4-6 cm long; scapes glabrate to sparsely hispid . . . . *P. nudicaule*

Papaver alboroseum **Hult.**
Pale poppy
Habitat/Range: Mesic to dry sites in the alpine zone; rare in NW BC; amphiberingian, N to AK and YT; Kamchatka.

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[30] Key adapted from Kriger (1975).

***Papaver alpinum* L.** (*P. pygmaeum* Rydb.)
Dwarf poppy
Habitat/Range: Dry alpine talus slopes; rare in SE BC; E to AB and S to NW MT.

***Papaver lapponicum* (Tolm.) Nordh. ssp. *occidentale* (Lundstr.) Knaben** (*P. alaskanum* Hult. var. *alaskanum*, *P. kluanensis* D. Löve)
Arctic poppy
Habitat/Range: Dry cliffs and talus slopes in the alpine zone; infrequent in N BC, rare S to 52°N; circumpolar, N to AK, YT and NT, E to W AB and S to CO and NM; Lapland.

***Papaver macounii* Greene** (*P. alaskanum* Hult. var. *macranthum* Hult., *P. scammianum* D. Löve)
Macoun's poppy
Habitat/Range: Mesic to dry sites in the subalpine and alpine zones; rare in NW BC; amphiberingian, N to AK, YT and NT; Asia.

***Papaver nudicaule* L.**
Iceland poppy
Habitat/Range: Mesic to dry, gravelly, disturbed areas and roadsides; rare garden escape in BC, known only from Manning Park and Radium; introduced from Asia.

***Papaver somniferum* L.**
Opium poppy
Habitat/Range: Roadsides and waste places; rare in SW and SC BC; introduced from Eurasia.

PARNASSIACEAE

PARNASSIA[31]

1. Petals fimbriate-pectinate on the lower half . . . . *P. fimbriata*

1. Petals not fimbriate-pectinate on the lower half.

  2. Flowering stems bractless or with a near-basal bract; petals 1- to 3 (5)-veined . . . *P. kotzebuei*

  2. Flowering stems usually with a bract above the level of the basal leaves; petals 5- to 13-veined.

    3. Petals usually 5-veined, usually 4-7 mm long; staminodia cleft into up to 7 slender divisions; leaves not truncate or cordate at base . . . . *P. parviflora*

    3. Petals 7- to 13-veined, 6-12 mm long; staminodia cleft into up to 15 slender divisions; leaves often truncate or cordate at base . . . . *P. palustris*

***Parnassia fimbriata* Konig**
Fringed grass-of-Parnassus
Habitat/Range: Moist to wet meadows, streambanks and bogs; common throughout BC except rare on the Queen Charlotte Islands; N to AK, YT and NT, E to SW AB and S to NM and CA.

***Parnassia kotzebuei* Cham. in Spreng.**
Kotzebue's grass-of-Parnassus
Habitat/Range: Wet to moist meadows and streambanks in the montane to alpine zones; frequent in BC N of 54°N and east of the Coast-Cascade Mountains, less frequent southward; amphiberingian, N to AK, YT and NT, E to Labr. and Greenland, S to WA, NV and WY; Siberia.
Notes: The supposedly distinct, more southern var. *pumila* C.L. Hitchc. & Ownbey also occurs in northern populations and is therefore of dubious merit (Douglas and Ratcliffe 1981).

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[31] Key adapted from Hitchcock and Cronquist (1973).

***Parnassia palustris* L.** (*P. palustris* var. *montanensis* [Fern. & Rydb.] C.L. Hitchc., *P. palustris* var. *neogaea* Fern.)
Northern grass-of-Parnassus
Habitat/Range: Moist to wet meadows and streambanks in lowland, montane and subalpine zones; common throughout all but extreme S BC east of the Coast-Cascade Mountains; circumpolar, N to AK, YT and NT, E to NF and S to MI, ND, WY and CA; Iceland, Eurasia.
Notes: A poorly studied complex.

***Parnassia parviflora* DC.** (*P. palustris* L. var. *pariviflora* [DC.] Boivin)
Small-flowered grass-of-Parnassus
Habitat/Range: Moist to wet meadows, streambanks and bogs in the montane zone; infrequent in E BC, rare northward; N to SE AK, E to NF and S to WI, SD, ID and MT.
Notes: This species might better be treated as a smaller-flowered variety of *P. palustris*.

PLANTAGINACEAE

PLANTAGO

1. Leaves mostly pinnatifid or deeply dissected . . . . *P. coronopus*

1. Leaves entire to shallowly lobed, never pinnatifid.

    2. Leaves cauline, opposite . . . . *P. psyllium*

    2. Leaves all basal, the plants scapose.

        3. Leaves narrowly to broadly linear, the blade not well differentiated from the petiole.

            4. Corolla tubes pubescent; plants perennials . . . . *P. maritima*

            4. Corolla tubes glabrous; plants annuals, sometimes biennials.

                5. Leaves more or less strongly woolly-villous . . . . *P. patagonica*

                5. Leaves glabrous or sometimes sparsely pubescent . . . . *P. elongata*

        3. Leaves lanceolate, oblanceolate, elliptic to ovate, the blade usually well differentiated from the petiole.

            6. Plants densely brown-woolly at the base . . . . *P. eriopoda*

            6. Plants not densely brown-woolly at the base or only sparsely so.

                7. Leaves elliptic to ovate.

                    8. Capsules 6-30-seeded, the seeds 1 mm long . . . . *P. major*

                    8. Capsules usually 4-seeded, the seeds 2 mm long . . . . *P. media*

                7. Leaves lanceolate to oblanceolate.

                    9. Capsules indehiscent, 5-7 mm long; seeds 4-5 mm long . . . . *P. macrocarpa*

                    9. Capsules dehiscent, 3-3.5 mm long; seeds 1-2 mm long.

                        10. Scapes not furrowed; sepals free . . . . *P. canescens*

                        10. Scapes deeply furrowed; sepals next to the bract united . . . *P. lanceolata*

Plantago canescens Adams

Arctic or Siberian plantain

Habitat/Range: Mesic meadows and roadsides in the montane and subalpine zones; rare in SE BC, also frequent just N of 60°N in YT; amphiberingian, N to AK, YT and NT, disjunct in SW AB and MT.

Plantago coronopus **L.**

Buck's-horn plantain

Habitat/Range: Moist gravelly coastal sites; rare on SE Vancouver Island; introduced from Eurasia.

Plantago elongata **Pursh** (*P. bigelovii* A. Gray, *P. elongata* ssp. *pentasperma* Bassett)

Slender plantain

Habitat/Range: Moist to dry coastal shores and bluffs, also in alkaline sites inland; locally frequent on SE Vancouver Island, the Gulf Islands and adjacent coast, rare in SC BC; E to MB and S to TX, CO, NV and CA.

Notes: Specimens of *P. bigelovii* and *P. elongata* annotated and cited in Bassett (1973) were not readily distinguishable in the herbaria studied. This was also noted by Cronquist (1984).

Plantago eriopoda **Torr.**

Alkali or saline plantain

Habitat/Range: Wet to moist alkaline meadows and salt marshes in the montane zone; rare in NW and SE BC; N to YT and NT, E to PQ and S to NB, CO, CA and MX.

Plantago lanceolata **L.**

Ribwort or English plantain

Habitat/Range: Lawns, fields and waste places; common in SW BC, infrequent N along the coast and E in BC; introduced from Eurasia.

Plantago macrocarpa **Cham. & Schlecht.**

Alaska plantain

Habitat/Range: Wet sites in bogs and along shores in the lowland zone; infrequent along the coast in BC; amphiberingian, N to S AK and S to OR, E Asia.

Plantago major **L.**

Common plantain

Habitat/Range: Lawns, fields, roadsides and waste places; common in SE BC, less frequent elsewhere; introduced from Eurasia.

Plantago maritima **L. ssp.** ***juncoides*** **(Lam.) Hult.**

Sea or seaside plantain

Habitat/Range: Salt marshes and coastal beaches in the lowland zone; common along the coast; coastal N America and S America.

Plantago media **L.**

Hoary plantain

Habitat/Range: Lawns, fields and waste places; rare in S BC; introduced from Eurasia.

Plantago patagonica **Jacq.** (*P. gnaphaloides* Nutt., *P. purshii* Roem. & Schult.)

Woolly plantain, or Indian-wheat

Habitat/Range: Dry slopes, fields and roadsides in the steppe vegetation and lower montane zones; locally frequent in SC BC, rare in SE BC; E to MB and S to TX and CA, S. America.

Notes: Some long-bracted BC plants have been recognized as var. *spinulosa* (Dcne.) A. Gray by Bassett (1973).

Plantago psyllium **L.**

Whorled or sand plantain

Habitat/Range: Roadsides and waste places; rare in S BC; introduced from Eurasia.

PLUMBAGINACEAE

ARMERIA

***Armeria maritima* (Mill.) Willd.** (*A. maritima* ssp. *arctica* [Cham.] Hult. = ssp. *purpurea*, *A. californica* Boiss. = ssp. *californica*)
Thrift or sea-pink
Habitat/Range: Beaches and coastal bluffs in the lowland zone; infrequent along the coast; ssp. *purpurea* - N to AK and S to WA, ssp. *californica* - from Vancouver Island to CA.
Notes: Two subspecies are recognized in BC.

1. Outer involucral bracts lance-attenuate, acute or cuspidate, surpassing the inner ones; leaves glabrous . . . . ssp. *californica* (Boiss.) Porsild
1. Outer involucral bracts ovate to obovate or obtuse, usually shorter than the inner ones; leaves usually minutely ciliate below . . . . ssp. *purpurea* (Koch) Lõve & Lõve

POLEMONIACEAE

1. Leaves opposite, sometimes the uppermost alternate.
   2. Leaves palmately 3-9-cleft nearly to the base . . . . *Linanthus*
   2. Leaves entire or nearly so.
      3. Leaves alternate above; plants annuals . . . . *Microsteris*
      3. Leaves mostly opposite above; plants perennials . . . . *Phlox*
1. Leaves alternate, sometimes the lowermost opposite.
   4. Calyx tubes of essentially uniform texture throughout, not ruptured by the developing capsule.
      5. Leaves pinnately compound with definite leaflets; plants perennials (except *P. micranthum*) . . . . *Polemonium*
      5. Leaves entire or more or less pinnatifid below but without definite leaflets; plants annuals . . . . *Collomia*
   4. Calyx tubes with green costa separated by hyaline intervals, usually ruptured by the developing capsule.
      6. Leaves about 1 cm long, or less, firm, prickly; plants shrubby . . . . *Leptodactylon*
      6. Leaves more than 1 cm long, not firm or prickly; plants herbs.
         7. Calyx lobes more or less unequal, large ones often trifid . . . . *Navarretia*
         7. Calyx lobes equal or nearly so, simple.
            8. Corollas 15-35 mm long and bright red or, if otherwise, then the leaves entire and linear above to trifid with narrow segments below . . . . *Ipomopsis*
            8. Corollas 3-11 mm long, pale blue to bluish-lavender; leaves entire and broadly lanceolate above to coarsely toothed or pinnatifid below . . . . *Gilia*

COLLOMIA[32]

1. Leaves, at least the lower ones, pinnatifid or subpinnatifid; locules 2-3-seeded . . . . *C. heterophylla*

1. Leaves entire; locules 1-seeded.

    2. Corollas 2-3 cm long, the lobes 5-10 mm long . . . . *C. grandiflora*

    2. Corollas 0.8-1.5 cm long, the lobes 1.5-3 mm long . . . . *C. linearis*

Collomia grandiflora **Dougl. ex Lindl.**

Large-flowered collomia

Habitat/Range: Dry sites in the lowland, steppe vegetation and montane zones; infrequent on S Vancouver Island, the Gulf Islands and the lower Fraser Valley, more frequent in SC BC; S to MT, WY, AZ and CA.

Collomia heterophylla **Hook.**

Vari-leaved collomia

Habitat/Range: Mesic forest openings and streambanks in the lowland zone; locally frequent on S Vancouver Island, rare on the adjacent coast and lower Fraser Valley; S to ID, WY, AZ and CA.

Collomia linearis **Nutt.**

Narrow-leaved collomia

Habitat/Range: Moist to dry open sites in the lowland, steppe vegetation and montane zones; common in S BC, less frequent northward where possibly introduced; N to AK, YT and NT, E to NB and NS and S to NE, WI, NM and CA.

GILIA

1. Flowers borne in dense, cymose heads terminating the stems and branches; leaves pinnatifid throughout . . . . *G. capitata*

1. Flowers borne in open cymose inflorescences, either terminal or axillary; leaves entire to coarsely toothed, sometimes deeply pinnatilobate below . . . . *G. sinuata*

Gilia capitata **Sims var. *capitata***

Globe gilia

Habitat/Range: Dry sites in the lowland, steppe vegetation and montane zones; rare on S Vancouver Island and the Peace River region, scattered elsewhere in S BC where possibly introduced; S to N ID and CA.

Gilia sinuata **Dougl. ex Benth. in DC.**

Shy gilia

Habitat/Range: Dry sites in the steppe vegetation zone; rare in SC BC, known only from Osoyoos; S to WY, NM and CA.

IPOMOPSIS

1. Corollas 15-35 mm long, bright red; lower leaves pinnatifid . . . . *I. aggregata*

1. Corollas 4-7 mm long, white or pale bluish; lower leaves trifid . . . . *I. minutiflora*

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[32] Key adapted from Hitchcock and Cronquist (1973).

Ipomopsis aggregata **(Pursh) V. Grant var. *aggregata*** (*Gilia aggregata* [Pursh] Spreng.)
Scarlet gilia, or skyrocket
Habitat/Range: Mesic to dry open sites in the steppe vegetation and montane zones; locally common in SC BC; S to MT, CA and MX.

Ipomopsis minutiflora **(Benth. in DC.) V. Grant** (*Gilia minutiflora* Benth. in DC.)
Small-flowered ipomopsis
Habitat/Range: Dry sites in the steppe vegetation zone; rare in SC BC; S to N ID and N OR.

LEPTODACTYLON

Leptodactylon pungens **(Torr.) Nutt.**
Prickly phlox
Habitat/Range: Dry sites in the steppe vegetation zone; locally frequent in extreme SC BC; S to NE, MT, NM and MX.

LINANTHUS

1. Stems sometimes branched at the base, otherwise simple; flowers subsessile; corollas bicolored; plants of SW BC . . . . *L. bicolor*
1. Stems branched above; flowers pedicellate; corollas not bicolored; plants of SC and SE BC.
    2. Seeds 1 per locule; corollas 1.5-2.5 mm long . . . . *L. harknessii*
    2. Seeds 2-8 per locule; corollas 2.5-6 mm long . . . . *L. septentrionalis*

Linanthus bicolor **(Nutt.) Greene**
Bicolored linanthus or flaxflower
Habitat/Range: Mesic to dry sites in the lowland zone; locally frequent on S Vancouver Island and the Gulf Islands; S to CA.

Linanthus harknessii **(Curran) Greene**
Harkness' linanthus or flaxflower
Habitat/Range: Dry slopes and forest openings in the steppe vegetation and montane zones; rare in SC and SE BC; S to ID, NV and CA.

Linanthus septentrionalis **Mason**
Northern linanthus or flaxflower
Habitat/Range: Dry slopes and forest openings in the steppe vegetation zones; rare in SC and SE BC; E to SK and S to WY, CO and CA.

MICROSTERIS

Microsteris gracilis **(Hook.) Greene**
Pink microsteris
Habitat/Range: Moist to dry slopes and streamsides in the lowland, steppe vegetation and lower montane zones; common in S BC, infrequent northward; S to MT, NM, CA and MX, S America.

NAVARRETIA

1. Stems glandular-hairy; stamens not exserted; capsules 3-locular . . . . *N. squarrosa*
1. Stems subglabrous to puberulent; stamens exserted; capsules 2-locular . . . . *N. intertexta*

***Navarretia intertexta* (Benth.) Hook.** (*N. minima* Nutt. var. *intertexta* [Benth.] Boivin)
Needle-leaved navarretia
Habitat/Range: Moist meadows and vernal pools; rare on SE Vancouver Island, the lower Fraser Valley and the Thompson Plateau; E to SK and S to CO, AZ and CA.

***Navarretia squarrosa* (Esch.) H.& A.**
Skunkweed
Habitat/Range: Mesic sites in the lowland zone; locally frequent on SE Vancouver Island and the Gulf Islands; S to CA.

PHLOX

1. Plants more or less erect, 5-40 cm tall; leaves 1-8 cm long; flowers pedicellate.
    2. Styles 0.5-2 mm long; calyces glandular . . . . *P. speciosa*
    2. Styles 6-15 mm long; calyces not glandular . . . . *P. longifolia*
1. Plants caespitose and mat-forming, if loosely erect (as in *P. caespitosa*) then plants 5-15 cm tall, leaves 0.5-1.3 cm long and flowers subsessile or sessile.
    3. Larger leaves 2-5 mm wide, white-margined, the bases conspicuously ciliate . . . . *P. alyssifolia*
    3. Larger leaves 0.5-2 mm wide, scarcely white-margined, the bases inconspicuously ciliate, if at all.
        4. Leaves and calyces pubescent but not woolly-villous or arachnoid . . . . *P. caespitosa*
        4. Leaves and calyces woolly-villous or arachnoid.
            5. Leaves soft, green and glabrous except for the arachnoid-ciliate basal margins; plants common in SW BC . . . . *P. diffusa*
            5. Leaves firm, usually arachnoid along the margins; plants rare in SE BC . . . . *P. hoodii*

***Phlox alyssifolia* Greene**
Alyssum-leaved phlox
Habitat/Range: Dry open sites in the montane zone; rare in SE BC; E to SK and S to SD, MT and N CO.

***Phlox caespitosa* Nutt.**
Tufted phlox
Habitat/Range: Dry slopes and forest openings in the steppe vegetation and montane zones; locally frequent in SE BC; S to N MT, N ID and N OR.

***Phlox diffusa* Benth. ssp. *longistylis* Wherry**
Spreading phlox
Habitat/Range: Mesic sites from the lowland to alpine zones; common in SW BC; S to N OR.

***Phlox hoodii* Richards. in Frankl.** (*P. hoodii* ssp. *canescens* [T.& G.] Wherry)
Hood's phlox
Habitat/Range: Dry open sites in the steppe vegetation and montane zones; rare in SE BC; N to AK, E to MB and S to CO, UT, NV and CA.

***Phlox longifolia* Nutt.**
Long-leaved phlox
Habitat/Range: Dry sites in the steppe vegetation and montane zones; locally frequent in SC BC; S to CO, WY, NM and CA.

Phlox speciosa **Pursh**

Showy phlox

Habitat/Range: Dry sites in the steppe vegetation and lower montane zones; rare in SC BC; S to ID, MT and N CA.

POLEMONIUM

1. Leaflets numerous, 2-5-cleft, appearing verticillate . . . . *P. viscosum*
1. Leaflets undivided, appearing as pairs.
   2. Corollas shorter than or equal to the calyces; flowers each opposed by a leaf; plants annuals . . . . *P. micranthum*
   2. Corollas much longer than calyces; flowers not opposed by a leaf; plants perennials.
      3. Plants 0.5-1.5 dm tall, stipitate-glandular or glandular-hairy throughout . . . . . . *P. elegans*
      3. Plants 1-10 dm tall, if glandular then only so in the inflorescence.
         4. Stems several from a much-branched caudex . . . . *P. pulcherrimum*
         4. Stems solitary from a short, simple horizontal rhizome.
            5. Stems 0.8-3 dm tall; leaflets distinctly pubescent (at least when young); corolla lobes rounded apically . . . . *P. boreale*
            5. Stems 1.5-10 dm tall; leaflets glabrous, sometimes subglabrous; corolla lobes tapering apically . . . . *P. caeruleum*

Polemonium boreale **Adams**

Northern Jacob's-ladder

Habitat/Range: Mesic to dry meadows and rock outcrops in the montane to alpine zones; rare in N BC; circumpolar, N to AK, YT and NT; E Greenland, Scandinavia, N Asia.

Polemonium caeruleum **L.** (*P. acutiflorum* Willd. ex Roem. & Schult. = ssp. *villosum*, *P. caeruleum* ssp. *occidentale* [Greene] Davids. and *P.occidentale* Greene = ssp. *amygdalinum*)

Tall Jacob's-ladder

Habitat/Range: Wet to moist swamps and meadows in the montane or subalpine zones; ssp. *villosum* - common in N BC, less frequent southward to 52°N, ssp. *amygdalinum* - rare, scattered in C and S BC east of the Coast-Cascade Mountains; amphiberingian, ssp. *villosum* - N to AK, YT and NT; Eurasia, ssp. *amygdalinum* - E to AB and S to MN, CO and CA.

Notes: Two subspecies are recognized in BC:

1. Stamens slightly exserted beyond the corollas, not markedly surpassed by the styles . . . . ssp. *villosum* (Rud.) Brand
1. Stamens included in the corollas, markedly surpassed by the styles . . . . ssp. *amygdalinum* (Wherry) Munz

Polemonium elegans **Greene**

Elegant Jacob's-ladder or polemonium

Habitat/Range: Dry cliffs and scree slopes in the alpine zone; rare in the Coast-Cascade Mountains; S to N CA.

***Polemonium micranthum* Benth. in DC.** (*Polemoniella micranthum* [Benth. in DC.] Heller)

Littlebells polemonium, or annual Jacob's-ladder

Habitat/Range: Vernally moist to dry sites in the steppe vegetation and lower montane zones; locally frequent in SC BC; S to MT, UT and CA; Argentina, Chile.

Notes: This species might better be placed under *Polemoniella* (see Hitchcock and Cronquist [1959], pg. 139).

Polemonium pulcherrimum* Hook. var. *pulcherrimum

Showy Jacob's-ladder

Habitat/Range: Moist to dry sites in the montane to alpine zones; common in BC in and east of the Coast-Cascade Mountains, also known from a single location in the Queen Charlotte Islands; N to AK, YT and NT, E to SW AB and S to CO and CA.

***Polemonium viscosum* Nutt.** (*P. confertum* A. Gray)

Skunk or sticky Jacob's-ladder or polemonium

Habitat/Range: Dry sites in the upper subalpine and alpine zones; infrequent in the Coast-Cascade Mountains S of 51°N, rare in extreme SE BC; E to SW AB and S to NM, NV and NE OR.

POLYGALACEAE

POLYGALA

***Polygala senega* L.**

Seneca-root

Habitat/Range: Moist to mesic sites in the steppe vegetation and montane zones; rare in NE BC, known only from Pouce Coupe; E to NB and S to AK, TN, GA and SD.

POLYGONACEAE

1. Leaves without sheathing stipules; stamens 9 . . . . *Eriogonum*
1. Leaves with sheathing stipules; stamens 4-6.
    2. Stems scapose; leaves round-reniform; sepals 4 . . . . *Oxyria*
    2. Stems alternate-leaved; leaves not round-reniform; sepals 3, 5 or 6.
        3. Sepals 3; stamens 3, rarely 4 . . . . *Koenigia*
        3. Sepals and stamens 5 or 6.
            4. Sepals 6; stamens 6 . . . . *Rumex*
            4. Sepals 5; stamens 5.
                5. Leaf blades linear to lanceolate; fruits included in the perianths or protruding for less than half its length . . . . *Polygonum*
                5. Leaf blades deltate-cordate; fruits at least twice as long as the perianths . . . . *Fagopyrum*

***ERIOGONUM*[33]**

1. Perianth abruptly stipelike at the attenuated base (thus pedicels appearing jointed); bracts foliaceous.
  2. Involucral lobes at least half as long as the tubes and generally reflexed or spreading.
    3. Flowering stems whorled-bracteate near midlength; leaves linear to linear-lanceolate . . . . *E. heracleoides*
    3. Flowering stems bractless near midlength; leaves usually elliptic . . . . *E. umbellatum*
  2. Involucral lobes usually less than half as long as the tubes and erect.
    4. Inflorescence subtended by 2 bracts . . . . *E. pyrolifolium*
    4. Inflorescence subtended by 4-6 bracts.
      5. Leaves 1-2 cm long; perianths tomentose below . . . . *E. androsaceum*
      5. Leaves 3-7 (9) cm long; perianths pilose throughout . . . . *E. flavum*
1. Perianth not stipelike or attenuated at the base; bracts usually scalelike.
  6. Outer perianth segments more or less similar to the inner ones.
    7. Flowering stems leafy below; leaves usually 2 cm long or more . . . . *E. pauciflorum*
    7. Flowering stems leafless above the base; leaves rarely as much as 2 cm long . . . . *E. androsaceum*
  6. Outer perianth segments up to twice as wide as the inner ones.
    8. Inflorescences capitate . . . . *E. ovalifolium*
    8. Inflorescences branched or umbellate, not capitate.
      9. Inflorescences leafy-bracteate at the lower forks; perianth cream or pink, rarely yellow . . . . *E. niveum*
      9. Inflorescences not leafy-bracteate; perianth yellow . . . . *E. strictum*

***Eriogonum androsaceum* Benth. in DC.**
Androsace buckwheat
Habitat/Range: Dry, open sites in the montane to subalpine zones; rare in SC and SE BC; E to SW AB and S to N MT.

***Eriogonum flavum* Nutt. in Fraser ssp. *piperi* (Greene) Stokes**
Yellow buckwheat
Habitat/Range: Dry sites from the steppe vegetation to alpine zones; rare in SE BC; E to AB and S to ID, MT and OR.

***Eriogonum heracleoides* Nutt. var. *angustifolium* (Nutt.) T.& G.**
Parsnip-flowered buckwheat
Habitat/Range: Dry sites in the steppe vegetation to lower subalpine zones; common in SC BC, rare in SE BC; S to WY, UT, NV and NE CA.

***Eriogonum niveum* Dougl. ex Benth.**
Snow buckwheat
Habitat/Range: Dry sites in the steppe vegetation and lower montane zones; locally frequent in SC BC; S to ID and OR.

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[33] Key adapted from Reveal (1973).

Eriogonum ovalifolium **Nutt. var. *nivale* (Canby) M.E. Jones**

Cushion buckwheat

Habitat/Range: Dry sites in the steppe vegetation and alpine zones; locally frequent in SC BC; E to AB and S to NM and CA.

Eriogonum pauciflorum **Pursh var. *pauciflorum***

Few-flowered buckwheat

Habitat/Range: Dry, open sites in the montane zone; rare in SE BC; E to SK and S to SD, MT, WY, NV and ID.

Eriogonum pyrolifolium **Hook. ex Murr. var. *coryphaeum* T.& G.**

Alpine buckwheat

Habitat/Range: Dry, alpine and subalpine scree slopes; rare in SC BC, known only from Cathedral Lakes Provincial Park; S to ID, MT and CA.

Eriogonum strictum **Benth.**

Strict buckwheat

Habitat/Range: Dry, open sites in the steppe vegetation and lower montane zones; rare in SC BC, known only from the Similkameen-Ashnola Rivers; S to ID, MT, NV and N CA.

Eriogonum umbellatum **Torr.** (*E. subalpinum* Greene = var. *subalpinum*)

Sulfur buckwheat

Habitat/Range: Dry sites in the steppe vegetation to alpine zones; common in SC and SE BC; S to CO, UT and OR.

Notes: Two closely related varieties occur in BC:

1. Perianth white to cream or pale yellow . . . . var. *subalpinum* (Greene) M.E. Jones
1. Perianth bright yellow . . . . var. *umbellatum*

FAGOPYRUM

Fagopyrum esculentum **Moench** (*F. sagittatum* Gilib., *Polygonum fagopyrum* L.)

Buckwheat

Habitat/Range: Fields and waste places; rare in S BC; introduced from Asia.

KOENIGIA

Koenigia islandica **L.**

Iceland koenigia

Habitat/Range: Moist gravelly sites in the subalpine and alpine zones; rare in NW and C BC; circumpolar, N to AK, YT and NT, E to ON and S to CO.

OXYRIA

Oxyria digyna **(L.) Hill**

Mountain sorrel

Habitat/Range: Moist open sites from the upper montane to alpine zones; common throughout BC, rare on the Queen Charlotte Islands; circumpolar, N to AK, YT and NT, E to NF and S to NH, AZ, NM and CA; Iceland, Eurasia.

POLYGONUM[34]

1. Outer perianth-segments winged or keeled in fruit.
    2. Plants twining; leaves less than 7 cm long . . . . *P. convolvulus*
    2. Plants erect; leaves more than 10 cm long.
        3. Leaves round-ovate, truncate or slightly cuneate at the base, abruptly cuspidate . . . . *P. cuspidatum*
        3. Leaves cordate-ovate, gradually tapering to the tip . . . . *P. sachalinense*
1. Outer perianth-segments not winged or keeled in fruit.
    4. Flowers in wide, diffuse panicles . . . . *P. polystachyum*
    4. Flowers in spikes or axillary clusters.
        5. Plants usually annuals, usually with small taproots; stipules more or less clear and colorless, irregular in shape, becoming fringed, margins not bristly.
            6. Pedicels becoming sharply recurved by (or shortly after) anthesis, the older flowers reflexed; racemes elongate, the flowers not crowded, borne in the axils of bracts that are much reduced but gradually transitional to the leaves below.
                7. Achenes 2-2.5 mm long, usually less than twice as long as wide; perianths 1.5-2.5 mm long, usually shorter than the achenes . . . . *P. engelmannii*
                7. Achenes usually well over 2.5 mm long and at least twice as long as wide; perianths rarely less than 3 mm long, usually exceeding the achenes . . . . *P. douglasii*
            6. Pedicels erect or spreading but not sharply reflexed; flowers often crowded in short terminal racemes, the bracts sometimes much exceeding the flowers.
                8. Achenes black or greenish-black, smooth and shining.
                    9. Plants semi-shrubby, freely branched perennials, the prostrate to ascending branches rooting readily . . . . *P. paronychia*
                    9. Plants herbaceous, taprooted annuals.
                        10. Leaves elliptic to more or less round, persistent, regularly spaced below, scarcely reduced upwards; stems reddish . . . . *P. minimum*
                        10. Leaves, at least the lower ones, linear to oblanceolate or narrowly elliptic and deciduous early, reduced upwards; stems more or less green . . . . *P. douglasii*
                8. Achenes yellowish, yellowish-green, tan, or dark-brown, roughened or papillose and usually dull, if smooth and shiny, then brown (in *P. ramosissimum*).
                    11. Flowers in terminal spikelike racemes, closely crowded and usually overlapping, borne in the axils of often considerably longer bracts . . . . *P. polygaloides*
                    11. Flowers mainly axillary to the leaves, seldom strongly crowded, the upper ones borne in the axils of reduced (and shorter) bracts.
                        12. Achenes smooth or somewhat roughened, never papillose.

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[34] Key adapted from Hitchcock and Cronquist 1973 and Wolf and McNeill (1986).

13. Leaves oblong, ovate or obovate, 2-4 times as long as wide . . . . *P. fowleri*

13. Leaves lanceolate, oblanceolate or linear, 5-12 times as long as wide.

    14. Leaves acute; achenes about 3 mm long; pedicels 2.5-3.5 mm long, exserted from the sheathing stipules . . . . *P. ramosissimum*

    14. Leaves obtuse; achenes less than 2.5 mm long; pedicels 2 mm long, included in the sheathing stipules . . *P. prolificum*

12. Achenes papillose (the papillae visible at 30X magnification).

    15. Achenes uniformly papillose, yellowish-green to tan; fruiting perianth divided 1/3 or less to base . . . . *P. achoreum*

    15. Achenes striate-papillose, dark brown; fruiting perianth divided 1/2 or more to the base.

        16. Achenes usually more than 2.8 mm long; plants heterophyllous . . . . *P. aviculare*

        16. Achenes less than 2.8 mm long; plants homophyllous (sometimes heterophyllus in *P. arenastrum*).

            17. Achenes 2.0-2.8 mm long, the sides convex; stipules silvery, mostly entire . . . . *P. buxiforme*

            17. Achenes 1.6-2.2 mm long, 1 side concave, 2 sides convex; stipules brown, lacerate . . . . . *P. arenastrum*

5. Plants perennials, sometimes annuals, usually rhizomatous; stipules red or brown, cylindric or funnel-like, margins sometimes bristly.

    18. Stems simple; leaves chiefly basal, blades oblong.

        19. Racemes usually less than 1.5 cm wide (when pressed), usually well over 3 times as long as broad; lower flowers usually replaced by bulblets . . . . . *P. viviparum*

        19. Racemes usually more than 1.5 cm wide (when pressed), rarely over 3 times as long as broad; lower flowers not replaced by bulblets . . . . *P. bistortoides*

    18. Stems branched; leaves cauline, blades lanceolate to ovate.

        20. Flowers rose-colored, usually confined to 1 or 2 terminal or subterminal spikelike inflorescences; achenes lenticular; styles 2-4 mm long; perianths not glandular . . . . *P. amphibium*

        20. Flowers white, greenish-white, or pink, usually borne in 2 to many contracted panicles; achenes mostly triquetrous; styles 0.3-1.5 mm long; perianths sometimes glandular.

            21. Spikes globose or capitate; plants decumbent . . . . *P. nepalense*

            21. Spikes cylindric-linear; plants erect.

                22. Perianths strongly glandular-punctate, the glands sessile.

                    23. Achenes deep brownish-black to black, smooth and shining; perianths mostly 5-lobed; stamens usually 8 . . . . . *P. punctatum*

                    23. Achenes brown, glandular and dull; perianths usually 4-lobed; stamens usually 6 . . . . *P. hydropiper*

22. Perianths not glandular-punctate, at least on the exposed areas.
    24. Inflorescence ending in spicate, slender, interrupted, usually geminate racemes (or panicle branches) mostly over 3 cm long; plants usually obvious perennials; nerves of the perianth segments not branched and recurved . . . . *P. hydropiperoides*
    24. Inflorescence usually of several short, thick, mostly continuous racemes rarely as much as 3 cm long; plants usually annuals but sometimes simulating perennials; nerves of the outer perianth segments sometimes branched and recurved.
        25. Nerves of the outer pair of perianth segments prominent, the veins branched and recurved at the tips; stipules glabrous to pubescent (but not bristly) on the sides . . . *P. lapathifolium*
        25. Nerves of the outer pair of perianth segments not especially prominent, the veins not branched and recurved at the tips; stipules usually strongly bristly on the sides . . . . *P. persicaria*

***Polygonum achoreum* Blake** (*P. erectum* L. ssp. *achoreum* Blake)
Blake's knotweed
Habitat/Range: Dry roadsides and disturbed sites in the lowland and steppe vegetation zones; infrequent in BC east of the Coast-Cascades Mountains N to 53°N; N to AK, E to NF and S to NY and CO.
Notes: In our region this plant is often mistakenly identified as *P. erectum*.

***Polygonum amphibium* L.** (*Persicaria amphibia* [L.] S.F. Gray var. *emersum* [Michx.] Hickman = var. *emersum*, *Polygonum coccineum* Muhl. in Willd. = var. *emersum*, *Polygonum natans* Michx. = var. *stipulaceum*)
Water smartweed
Habitat/Range: Shoreline, ditches and shallow waters in the lowland, steppe vegetation and montane zones; var. emersum - infrequent in S BC, rare northward to NE BC, var. stipulaceum - common throughout BC except absent in the Queen Charlotte Islands and adjacent coast; N to AK, YT and NT, E to NF and S to FL, TX and CA.
Notes: Two intergrading varieties occur in BC:

1. Peduncles mostly glandular-pubescent; inflorescences usually at least 4 cm long, cylindric . . . . var. *emersum* Michx.
1. Peduncles mostly glabrous; inflorescences rarely 4 cm long, oblong-ovoid or ovoid-conic . . . . var. *stipulaceum* (Coleman) Fern.

***Polygonum arenastrum* Jord. ex Boreau**
Oval-leaved knotweed
Habitat/Range: Disturbed sites, roadsides and waste places; infrequent in S BC, rare northward to 53°N; introduced from Eurasia.
Notes: Often mistaken for *P. aviculare*, a heterophyllous species.

***Polygonum aviculare* L.**
Common knotweed
Habitat/Range: Disturbed sites, roadsides and waste places; common in S BC, less frequent northward; introduced from Eurasia.

Polygonum bistortoides **Pursh** (*Bistorta bistortoides* [Pursh] Small)

American bistort

Habitat/Range: Moist to mesic meadows in the subalpine and alpine zones; infrequent in SC and SE BC; E to SW AB and S to MT, NM and CA.

Polygonum buxiforme **Small**

Eastern knotweed

Habitat/Range: Roadsides and disturbed sites in the steppe vegetation and montane zones; rare E of the Coast-Cascade Mountains in BC south of 54°N; probably introduced from E North America.

Polygonum convolvulus **L.** (*Bilderdykia convolvulus* [L.] Dumort., *Fallopia convolvulus* [L.] A. Love)

Black bindweed

Habitat/Range: Waste places and fields; infrequent in S BC, rare northward; introduced from Eurasia.

Polygonum cuspidatum **Sieb. & Zucc.** (*Reynoutria japonica* Houtt.)

Japanese knotweed

Habitat/Range: Ditches and disturbed sites; infrequent in the lower Fraser Valley, also known from Powell River; introduced from Asia.

Notes: Easily confused with *P. sachalinense.*

Polygonum douglasii **Greene** (*P. austiniae* Greene = ssp. *austiniae*; *P. douglasii* var. *latifolium* [Engelm.] Greene, *P. majus* [Meisn. in DC.] Piper in Piper & Beattie = ssp. *majus*, *P. nuttallii* Small = ssp. *nuttallii*, *P. spergulariiforme* Meisn. ex. Small = ssp. *spergulariiforme*)

Austin's knotweed (ssp. *austiniae*), Douglas' knotweed (ssp. *douglasii*), Nuttall's knotweed (ssp. *nuttallii*), spurry knotweed (ssp. *spergulariiforme*), wiry knotweed (ssp. *majus*)

Habitat/Range:

- ssp. *austiniae* - Dry sites in the steppe vegetation and lower montane zones; rare in SE BC, known only from South Kootenay Pass; S to WY and NE CA.
- ssp. *douglasii* - Moist to dry, often disturbed sites in the lowland and montane zones; frequent in SC BC and on Vancouver Island, rare elsewhere in BC; E to PQ and S to NY, UT, NM and CA.
- ssp. *majus* - Dry sites in the lowland, steppe vegetation and montane zones; rare on S Vancouver Island, infrequent elsewhere in S BC east of the Coast-Cascade Mountains; S to ID, W MT and CA.
- ssp. *nuttallii* - Dry open sites in the lowland and montane zones; infrequent in and W of the Coast-Cascade Mountains in S BC; rare northward to 54°N, absent from the Queen Charlotte Islands; S to NW OR.
- ssp. *spergulariiforme* - Moist to dry gravelly sites in the lowland and steppe vegetation zones; common on S Vancouver Island, the Gulf Islands and adjacent coast, rare in SC BC; S to ID, CO and CA.

Notes: Five subspecies occur in BC:[35]

1. Pedicels becoming sharply recurved by (or shortly after) anthesis, the older flowers reflexed; racemes elongate, the flowers not crowded, borne in the axils of bracts that are much reduced but gradually transitional to the leaves below.

    2. Achenes 2-2.5 mm long, usually less than twice as long as wide; perianths 1.5-2.5 mm long, usually shorter than the achenes . . . . ssp. *austiniae* (Greene) Hickman

    2. Achenes usually well over 2.5 mm long and at least twice as long as wide; perianths rarely less than 3 mm long, usually exceeding the achene.

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[35] Key adapted from Hitchcock and Cronquist 1973.

3. Perianths usually 4-5 mm long; leaves linear to oblong, rarely less than 4 times as long as wide . . . . ssp. *majus* (Meisn. in DC.) Hickman
3. Perianths usually 3-3.5 mm long; leaves various . . . . .ssp. *douglasii*

1. Pedicels erect or spreading but not sharply reflexed; flowers often crowded in short racemes, the bracts sometimes much exceeding the flowers.
    4. Perianths usually 3-4 mm long; achenes nearly lanceolate in outline, usually at least 3 mm long; leaves strongly reduced upwards . . . . ssp. *spergulariiforme* (Meisn. ex Small) Hickman
    4. Perianths 2-2.5 mm long; achenes ovoid, triquetrous, 2-2.5 mm long; leaves not strongly reduced upwards . . . . ssp. *nuttallii* (Small) Hickman

***Polygonum engelmannii* Greene**
Engelmann's knotweed
Habitat/Range: Moist to dry sites in the steppe vegetation and montane zones; rare in SE BC; E to SW AB and S to WY and CO.

***Polygonum fowleri* B.L. Robins.**
Fowler's knotweed
Habitat/Range: Salt marshes and sandy or gravelly shorelines in the lowland zone; infrequent in coastal BC; N to AK, E to NF and S to CA.

***Polygonum hydropiper* L.** (*Persicaria hydropiper* [L.] Opiz)
Marshpepper smartweed
Habitat/Range: Moist ditches and disturbed sites; infrequent in SW and SC BC; introduced from Eurasia.
Notes: Closely related to *P. punctatum.*

***Polygonum hydropiperoides* Michx.** (*Persicaria hydropiperoides* (Michx.) Small)
Water-pepper
Habitat/Range: Wet, swampy sites, shorelines and shallow water in the lowland, steppe vegetation and montane zones; rare in S BC; E to NB and NS and S to FL, TX and MX; S. America.
Notes: Sometimes difficult to differentiate from *P. persicaria* which has annual rather than perennial roots and longer inflorescences.

***Polygonum lapathifolium* L.** (*P. scabrum* Moench, *Persicaria lapathifolia* [L.] S.F. Gray)
Willow weed
Habitat/Range: Moist meadows and wet shorelines and swamps in the lowland, steppe vegetation and montane zones; common in SW BC, rare elsewhere in S and NE BC; E to NF and S to NJ, PA, MN, SD and CA.

***Polygonum minimum* S. Wats.**
Leafy dwarf knotweed
Habitat/Range: Dry sites in the montane to alpine zones; infrequent in BC S of 53°N; E to AB and S to CO and CA.

***Polygonum nepalense* Meisn.** (*Persicaria nepalense* [Meisn.] Miyabe in Miyabe & Kudo)
Nepalese knotweed
Habitat/Range: Disturbed sites and gravel bars in the lowland zone; rare, known only from several recent collections in the Vancouver area; introduced from Asia.

***Polygonum paronychia* Cham. & Schlecht.**
Black or beach knotweed
Habitat/Range: Moist to mesic sand dunes and beaches in the lowland zone; infrequent on S Vancouver Island and the Gulf Islands; S to CA.

Polygonum persicaria L. (*Persicaria maculata* [Raf.] S.F. Gray, *P. vulgaris* Webb & Mog.)
Lady's-thumb
Habitat/Range: Roadsides, fields and waste places; infrequent in S BC, rare northward along the coast; introduced from Eurasia.
Notes: Sometimes difficult to separate from *P. hydropiperoides*.

Polygonum polygaloides Meisn. ssp. kelloggii (Greene) Hickman (*P. kelloggii* Greene)
Kellogg's knotweed
Habitat/Range: Wet vernal pools to dry meadows in the montane and subalpine zones; rare in S BC; E to SW AB and S to CO, AZ and CA.

Polygonum polystachyum Wall. ex Meisn. (*Aconogonum polystachyum* [Wall. ex Meisn.] Kral)
Himalayan knotweed
Habitat/Range: Gardens and waste places; rare in extreme SW BC; introduced from SC Asia.

Polygonum prolificum (Small) B.L. Robins. (*P. ramosissimum* var. *prolificum* Small)
Proliferous knotweed
Habitat/Range: Dry to moist saline sites in the steppe vegetation zone; rare in SC BC; E to NS and S to ME, VA, TX and WA.
Notes: Sometimes confused with *P. ramosissimum*.

Polygonum punctatum Ell. (*Persicaria punctata* [Ell.] Small)
Dotted smartweed
Habitat/Range: Swamps and wet meadows in the steppe vegetation zone; rare in SC BC; E to NB and NS and S to FL, TX, MX and CA; S Asia.
Notes: Closely related to *Polygonum hydropiper*.

Polygonum ramosissimum Michx.
Bushy or yellow-flowered knotweed
Habitat/Range: Moist to dry shorelines, ditches and waste places; rare in SC BC; E to NS and NB, and S to MO, PA, TX, NM and CA.
Notes: Sometimes confused with the homophyllous *P. prolificum*.

Polygonum sachalinense F. Schmidt ex Maxim. (*Reynoutria sachalinense* [F. Schmidt ex Maxim.] Nakai in Mori)
Sachaline or giant knotweed
Habitat/Range: Field, roadsides and waste places; infrequent on Vancouver Island and the Gulf Islands; introduced from Asia.

Polygonum viviparum L. (*Bistorta vivipara* [L.] S.F. Gray)
Alpine bistort
Habitat/Range: Moist openings and meadows from the upper montane to alpine zones; common in and east of the Coast-Cascade Mountains in BC, rare along the coast; circumpolar, N to AK, YT and NT, E to NF and S to NH, MN, MI, UT, NM and OR; Eurasia, Iceland.

RUMEX[36]

1. Flowers mostly or entirely imperfect, the plants usually dioecious; leaves either sagittate or hastate or, if otherwise, then the plants subalpine or alpine.
    2. Leaves tapered at each end, never hastate or sagittate; plants subalpine to alpine, with thick taproots . . . . *R. paucifolius*

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[36] Key adapted from Hitchcock and Cronquist (1973).

2. Leaves, or at least some of them, hastate to sagittate; plants lowland or montane, weedy, usually rhizomatous.
    3. Leaves sagittate, the lobes pointing downward; pedicels jointed about midlength; plants not rhizomatous . . . . *R. acetosa*
    3. Leaves hastate, the lobes spreading to divaricate; pedicels jointed next to the flower; plants rhizomatous . . . . *R. acetosella*

1. Flowers mostly or entirely perfect; leaves various, never hastate, rarely sagittate; plants not subalpine or alpine (except sometimes *R. arcticus*).
    4. Inner perianth segments becoming more or less strongly toothed or dissected (the teeth at least 1 mm long), 1 or more with a prominent callosity.
        5. Plants annuals; valves each with a prominent callosity; perianth segments with long slender teeth or bristles on each margin; leaves oblong-lanceolate, 4-10 (15) cm long, rarely over 1/4 as wide . . . . *R. maritimus*
        5. Plants perennials; valves, except for 1 or sometimes 2 of them, lacking prominent callosities; perianth segments with short, stout teeth on each margin; leaves oblong or ovate-oblong, 10-20 (35) cm long, usually well over 1/4 as wide . . . . *R. obtusifolius*
    4. Inner perianth segments entire to slightly erose or denticulate (the denticulations less than 1 mm long), with or without prominent callosities.
        6. Valves without callosities.
            7. Stems branching from the lower nodes; valves seldom more than 3 mm long . . . . *R. salicifolius*
            7. Stems simple below the inflorescence; valves 3-10 mm long.
                8. Leaves linear-lanceolate to lanceolate, only the lowermost ones subcordate at base; panicle unbranched or with a few short branches; plants often purplish-tinged, rare in N BC . . . . *R. arcticus*
                8. Leaves oblong-lanceolate to oblong-ovate, the leaves usually cordate to rounded at base; panicle compound; plants rarely purplish-tinged, frequent throughout BC . . . . *R. occidentalis*
        6. Valves all, or at least 1 or 2 of them, with callosities.
            9. Stems branching from the lower nodes . . . . *R. salicifolius*
            9. Stems simple below the inflorescence.
                10. Panicles open, the verticils of flowers not contiguous; leaves not strongly crisp-margined . . . . *R. conglomeratus*
                10. Panicles dense, the verticils often contiguous, at least towards the branch ends; leaves strongly crisp-margined . . . . *R. crispus*

Rumex acetosa **L.** (*R. acetosa* ssp. *arifolius* [All.] Blytt & Dahl, *R. alpestris* Scop. = ssp. *alpestris*)
Green or garden sorrel
Habitat/Range: Moist to mesic sites in the montane to alpine zones; ssp. *alpestris* - common throughout BC east of the Coast-Cascade Mountains, ssp. *acetosa* - rare in S BC; N to AK, YT and NT, and E to Greenland, the ssp. *acetosa* introduced from Eurasia.
Notes: Two subspecies occur in BC:

1. Stipular sheaths entire, sometimes ciliate with age . . . . ssp. *alpestris* (Scop.) A. Löve
1. Stipular sheaths ciliate . . . . ssp. *acetosa*

Rumex acetosella **L.** (*R. angiocarpus* Murb.)

Sheep sorrel

Habitat/Range: Gardens, fields, roadsides and waste places; common in S BC, rare northward; introduced from Eurasia.

Rumex arcticus **Trautv. in Middend.**

Arctic dock

Habitat/Range: Moist to wet sites from the montane to alpine zones; rare in N BC; circumpolar, N to AK, YT and NT; N. Eurasia.

Notes: This species is closely related to *R. occidentalis*.

Rumex conglomeratus **Murr.**

Clustered dock

Habitat/Range: Roadsides and waste places; locally frequent on S Vancouver Island, the Gulf Islands and adjacent lower mainland; introduced from Eurasia.

Rumex crispus **L.**

Curled dock

Habitat/Range: Moist roadsides and disturbed sites; common in SW BC, frequent elsewhere in S BC south of 54°N; introduced from Eurasia.

Rumex maritimus **L.**

Golden dock

Habitat/Range: Moist to wet shorelines or marshes in the lowland, steppe vegetation and montane zones; frequent in S BC, disjunct in the Peace River region; circumpolar, N to AK, YT and NT, E to NS and S to AK, NM and CA; Eurasia, S America.

Rumex obtusifolius **L.**

Bitter dock

Habitat/Range: Roadsides and disturbed sites; frequent in SW BC, rare in the Queen Charlotte Islands; introduced from Eurasia.

Rumex occidentalis **S. Wats.** (*R. fenestratus* Greene, *R. occidentalis* var. *labradoricus* [Rech. f.] Lepage)

Western dock

Habitat/Range: Moist to wet meadows or shorelines in the lowland, steppe vegetation and montane zones; frequent throughout BC, rare on the Queen Charlotte Islands; N to AK, YT and NT, E to NF and S to SD, UT, NM and CA.

Notes: This species is closely related to *R. arcticus*.

Rumex paucifolius **Nutt. in S. Wats.**

Alpine sorrel

Habitat/Range: Moist to wet meadows from the montane to alpine zones; rare throughout BC east of the Coast-Cascade Mountains; E to SW AB and S to CO and CA.

Rumex salicifolius **Weinm.** (*R. mexicanus* Meisn., *R. salicifolius* ssp. *triangulivalvis* Danser var. *angustivalvis* Danser, *R. salicifolius* ssp. *triangulivalvis* var. *mexicanus* [Meisn.] C.L. Hitchc., *R. salicifolius* ssp. *triangulivalvis* var. *montigenitus* Jeps. and *R. triangulivalvis* [Danser] Rech. f. = ssp. *triangulivalvis*, *R. mexicanus* Meisn. var. *transitorius* [Rech. f.] Boivin and *R. transitorius* Rech. f. = var. *salicifolius*)

Willow dock

Habitat/Range: Moist to mesic fields, roadsides, disturbed sites, beaches, shorelines and meadows in all vegetation zones; infrequent throughout BC; circumpolar, N to AK, YT and NT, E to NF, and S to OH, NB, TX, NM, CA and MX; Eurasia.

Notes: Only two phases of this highly variable and poorly understood species are recognized in this treatment of BC material. See Hitchcock *et al.* (1964) for an alternative treatment.

1. Valves thickened in texture; callosities, if present, usually covering less than 1/2 of the valve . . . . ssp. *triangulivalvis* Danser
1. Valves thin in texture; callosities covering almost all of at least 1 valve . . . . ssp. *salicifolius*

PORTULACACEAE[37]

Notes: The taxonomy of *Claytonia* and *Montia* follows that of McNeill (1975).

1. Petioles persistent as slender spines on the caudex or branches; leaves semiterete . . . . . *Talinum*
1. Petioles not persistent and spinose; leaves usually flattened.
    2. Ovaries more or less inferior, upper part of calyces circumscissile with the ovaries; flowers yellow . . . . *Portulaca*
    2. Ovaries superior, often valvate, if circumscissile the calyces persistent in entirety; flowers not yellow.
        3. Flowers tightly clustered in scorpioid umbels or panicles; petals 4; stamens 3 . . . . *Calyptridium*
        3. Flowers solitary or in more or less open racemes or cymes; petals usually 5 or more; stamens 2-5.
            4. Flowers in leafy-bracteate racemes, lower ones in axils of scarcely reduced leaves; plants annuals with alternate leaves; capsules 3-valved, 15-40-seeded . . . *Calandrinia*
            4. Flowers usually solitary or in minutely bracteate or ebracteate racemes or cymes; plants various; capsules either circumscissile or less than 15-seeded.
                5. Stems with numerous alternate or opposite leaves; basal leaf rosettes absent; ovules always three . . . . *Montia*
                5. Stems with a single pair of opposite leaves or 2-3 (5) semi-whorled leaves or perfoliate, otherwise scapose; basal rosette of leaves usually present; ovules 3-6.
                    6. Capsules circumscissile near the base, the lid sometimes splitting upwards; leaves thick and fleshy . . . . *Lewisia*
                    6. Capsules dehiscent downward by 3 valves; leaves not thick or fleshy . . . . *Claytonia*

CALANDRINIA

Calandrinia ciliata **(Ruiz & Pavon) DC. var.** ***menziesii*** **(Hook.) J.F. Macbr.**

Desert rock purslane, or red maids

Habitat/Range: Moist, gravelly vernal sites in the lowland zone; locally frequent on SE Vancouver Island and the Gulf Islands; S to AZ and CA; S America.

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[37] Key adapted from Hitchcock and Cronquist (1973).

CALYPTRIDIUM

Calyptridium umbellatum (Torr. in Smith) Greene var. *caudiciferum* (A. Gray) Jepson (*Spraguea umbellatum* Torr. in Smith)
Mount Hood pussypaws
Habitat/Range: Dry sandy sites and scree slopes from the montane to alpine zones; rare in SC BC, known only from Placer Mountain and Cathedral Provincial Park; S to CA.

CLAYTONIA[38]

1. Plants perennials, with a more or less spherical underground corm, bearing fibrous roots; styles usually more than twice as long as the ovaries.
    2. Petals white, often yellowish at base; seeds reddish-brown; plants of extreme N BC . *C. tuberosa*
    2. Petals white or more often pinkish or pink-veined; seeds shiny black; plants of S BC . . . . *C. lanceolata*
1. Plants perennials or annuals, never corm-bearing; styles usually only up to 1 1/2 times as long as the ovaries.
    3. Plants perennials with a massive, more or less erect, woody underground stock, bearing thick branched roots; ovules 6 . . . . *C. megarhiza*
    3. Plants annuals, or if perennials, then with a more or less spreading rhizome up to 3.5 mm in diameter; roots fibrous, tufted or adventitious; ovules 3-6.
        4. Bracts absent in the inflorescence; ovules 6; plants rhizomatous perennials.
            5. Plants stoloniferous; basal leaves 0.3-2.5 cm wide; cauline leaves usually less than 1 cm wide; plants of NW BC . . . . *C. sarmentosa*
            5. Plants not stoloniferous; basal leaves (2) 2.5-7 cm wide; cauline leaves more than 1 cm wide; plants of S BC . . . . *C. cordifolia*
        4. Bracts 1-several in the lower part of the inflorescence; ovules 3; plants annuals, or shortly rhizomatous and persisting for more than one year (*C. sibirica*).
            6. Petals 6-12 mm long; cauline leaves not connate; short-lived perennials . . . *C. sibirica*
            6. Petals usually less than 6 mm long; cauline leaves usually connate, at least on one side; annuals.
                7. Plants 1-6 (8) cm tall; basal leaves linear to linear-spatulate; cauline leaves lanceolate . . . . *C. spathulata*
                7. Plants usually more than 8 cm tall; basals leaves various; cauline leaves usually disk-like . . . . *C. perfoliata*

Claytonia cordifolia S. Wats. (*Montia cordifolia* [S. Wats.] Pax & K. Hoffm., *C. asarifolia auctt. non* Bong.)
Heart-leaved or broad-leaved springbeauty
Habitat/Range: Wet sites near streams and ponds in the montane zone; locally frequent in SE BC, rare on Vancouver Island; S to W MT, UT and CA.
Notes: Sometimes confused with *C. sibirica*.

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[38] Key adapted from McNeill (1975).

Claytonia lanceolata Pursh (*C. caroliniana* Michx. var. *lanceolata* [Pursh] S. Wats, *C. lanceolata* var. *chrysantha* [Greene] C.L. Hitchc., *C.lanceolata* var. *pacifica* McNeill)

Western springbeauty

Habitat/Range: Moist snowmelt sites from the steppe vegetation to alpine zones; common in SC and SE BC, rare on Vancouver Island; E to SK and S to NM and CA.

Notes: Plants with petiolate stem leaves from Vancouver Island and NW WA have been recognized as var. *pacifica*. Since plants with petiolate stem leaves occur in populations of the species elsewhere in BC and WA this form does not appear significant. The yellow-flowered form (var. *chrysantha*), found just to the south of the BC border in NW WA was also shown to be synonymous with the species (Douglas and Taylor 1972).

Claytonia megarhiza (A. Gray) Parry ex S. Wats. var. *megarhiza*

Alpine springbeauty

Habitat/Range: Dry gravelly sites and talus slopes in the alpine zone; rare in SE BC, known only from Goat Mountain; E to S AB and S to CO, UT, NM and NV, disjunct in NT.

Claytonia perfoliata Donn ex Willd. (*Montia perfoliata* [Donn ex Willd.] Howell, *C. perfoliata* var. *depressa* [A. Gray] van Poelln., *C. perfoliata* var. *parviflora* [Dougl. ex Hook.] Torr.)

Miner's-lettuce

Habitat/Range: Moist, sandy vernal sites in the lowland, steppe vegetation and montane zones; frequent in S BC; S to SD, MT, UT, AZ and MX, also known from AK.

Notes: Recognition of infraspecific taxa within this highly variable species does not appear warranted until adequate studies are completed.

Claytonia sarmentosa C.A. Mey. (*Montia sarmentosa* [C.A. Mey.] B.L. Robins.)

Alaska springbeauty

Habitat/Range: Moist open slopes from the montane to alpine zones; infrequent in NW BC; amphiberingian, N to AK and YT; E Asia.

Claytonia sibirica L. (*Montia sibirica* [L.] Howell, *M. sibirica* var. *heterophylla* [T.& G.] B.L. Robins.)

Siberian miner's-lettuce

Habitat/Range: Moist sites in the lowland, steppe vegetation and montane zones; common in and W of the Coast-Cascade Mountains S of 55°N, less frequent eastward; amphiberingian, S to MT, UT and CA; E Asia.

Notes: A highly variable species sometimes confused with *C. cordifolia*.

Claytonia spathulata Dougl. ex Hook. (*Montia spathulata* [Dougl. ex Hook.] Howell)

Pale springbeauty

Habitat/Range: Moist snowbed sites in the lowland and montane zones; rare on SE Vancouver Island, the Gulf Islands and adjacent coast, also known from Hazelton; S to CA.

Claytonia tuberosa Pallas ex Willd. (*C. caroliniana* Michx. var. *tuberosa* [Pallas. ex Willd.] Boivin)

Tuberous springbeauty

Habitat/Range: Moist sites in the subalpine and alpine zones; rare in N BC; amphiberingian, N to AK and S YT; E Asia.

LEWISIA[39]

1. Plants with globose or ovoid corms; cauline leaves 2-3 (5), semiwhorled . . . . *L. triphylla*
1. Plants with large, fleshy taproots; cauline leaves reduced and bractlike.
    2. Sepals 5-9, rarely 4, imbricate; flowers 1 per scape . . . . *L. rediviva*

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[39] Key adapted from Hitchcock and Cronquist (1973).

2. Sepals 2; flowers 2-several per scape (1 per scape in *L. pygmaea*).
   3. Flowering stems usually less than 10 cm long, 1 flower per scape, with a pair of opposite bracts at or below midlength . . . . *L. pygmaea*
   3. Flowering stems 10-20 cm long, rarely less, 2-several flowers per scape, the bracts alternate or absent.
      4. Petals 5-13 mm long; stamens 5-6; leaves 3-8 mm wide . . . . *L. columbiana*
      4. Petals 25-40 mm long; stamens 12-25; leaves usually over 10 mm wide . . . *L. tweedyi*

Lewisia columbiana* (Howell) B.L. Robins. in A. Gray var. *columbiana
Columbia lewisia
Habitat/Range: Mesic to dry sites from the montane to alpine zones; rare on S Vancouver Island and the Cascade Mountains; S to OR.

Lewisia pygmaea* (A. Gray) B.L. Robins. in A. Gray var. *pygmaea
Alpine lewisia
Habitat/Range: Moist to dry open sites from the montane to alpine zones; infrequent in S BC; S to MT, NM, AZ and CA, disjunct in YT.

***Lewisia rediviva* Pursh**
Bitterroot
Habitat/Range: Dry, gravelly sites in the steppe vegetation and lower montane zones; locally frequent in SC BC, rare in SE BC; S to MT, CO, AZ and CA.

***Lewisia triphylla* (S. Wats.) B.L. Robins. in A. Gray**
Three-leaved lewisia
Habitat/Range: Moist, sandy snowbed sites from the montane to alpine zones; rare on Vancouver Island and in SE BC; S to MT, CO and CA.

***Lewisia tweedyi* (A. Gray) B.L. Robins. in A. Gray**
Tweedy's lewisia
Habitat/Range: Dry talus slopes and cliffs from the upper montane to the alpine zones; rare in SC BC, known only from Manning Provincial Park; S to C WA.

MONTIA[40]

1. Stem leaves opposite; seeds rounded on the back.
   2. Plants perennials, stoloniferous; petals 5, equal, more or less free at the base; stamens 5 . . . . *M. chamissoi*
   2. Plants annuals, not stoloniferous; petals 2, or if 5 then 3 of them smaller, fused for about 1/3 their length; stamens 3 . . . . *M. fontana*
1. Stem leaves alternate; seeds usually flattened or keeled on the back.
   3. Plants perennials; petals 6-15 mm long; stamens 5; bracts solitary or numerous.
      4. Lower leaves linear to linear-spatulate; bracts solitary at base of inflorescence; plants rare in extreme NW BC . . . . *M. bostockii*
      4. Lower leaves lanceolate to obovate or orbicular; bracts numerous; plants common in S BC . . . . *M. parvifolia*
   3. Plants annuals; petals 0.5-6.0 mm long; stamens 2 or 3 (5 in *M. diffusa*); bracts solitary.

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[40] Key adapted from McNeill (1975).

5. Leaves distinctly and more or less abruptly petiolate, the blades lanceolate to suborbicular; stamens 5 . . . . *M. diffusa*

5. Leaves without a distinct petiole, linear to linear-spatulate; stamens 2 or 3.

    6. Flowers clustered in the axils of scarious bracts opposite the leaves, much exceeded by the subtending leaves, the bracts often connate with the leaves and resembling sheathing stipules; sepals 0.4-1.2 mm long, longer than the petals . . . . . . *M. howellii*

    6. Flowers evidently racemose, generally terminal on the stems or in axils of uppermost leaves, usually exceeding the subtending leaves; sepals 1.2-6.5 mm long, evidently shorter than the petals.

        7. Sepals about 2 mm long; leaves about 0.5 mm wide; plants 2-8 cm tall . . . . *M. dichotoma*

        7. Sepals (2.5) 3-6 mm long; leaves 1-3 mm wide; plants (3) 5-20 cm tall . *M. linearis*

***Montia bostockii* (Porsild) Welsh** (*Claytonia bostockii* Porsild)
Bostock's montia
Habitat/Range: Moist meadows in the subalpine and alpine zones; rare in NW BC, known only from the Haines Rd.; N to AK and SW YT.

***Montia chamissoi* (Ledeb. ex Spreng.) Greene** (*Claytonia chamissoi* Ledeb. ex Spreng.)
Chamisso's montia
Habitat/Range: Wet bogs, marshes and streambanks in the lowland and montane zones; rare in coastal BC, known only from Port Alberni and Stewart; N to AK, E to MB and S to NM and CA, disjunct in IA.

***Montia dichotoma* (Nutt. in T.& G.) Howell**
Dwarf montia
Habitat/Range: Moist sites in the lowland zone; rare on SE Vancouver Island, the Gulf Islands and SC BC; S to ID, MT and CA.

***Montia diffusa* (Nutt. in T.& G.) Greene**
Branching montia
Habitat/Range: Moist forests in the lowland and lower montane zones; rare on S Vancouver Island and the adjacent coast; S to CA.

***Montia fontana* L.** (*M. fontana* ssp. *amporitana* Sennen, *M. fontana* ssp. *variabilis* Walt., *M. fontana* var. *tenerrima* [A. Gray] Fern. & Wieg., *M. lamprosperma* Cham.)
Blinks, or water chickweed
Habitat/Range: Wet meadows or shallow water in the lowland and montane zones; rare in NW, SW and SC BC; circumpolar, N to AK, YT and NT, E to NF and S to ME, ID, NV and CA; Greenland, Iceland, Eurasia.
Notes: Recognition of infraspecific taxa within this variable species complex does not appear warranted at this time (McNeill 1975).

***Montia howellii* S. Wats.**
Howell's montia
Habitat/Range: Moist sites in the lowland zone; rare on Vancouver Island and adjacent islands; S to NW CA.

***Montia linearis* (Dougl. ex Hook.) Greene**
Narrow-leaved montia
Habitat/Range: Moist to dry sandy sites in the lowland, steppe vegetation and lower montane zones; frequent in S BC, rare northward to 55°N; E to SW SK and S to MT, UT and CA.

Montia parvifolia **(Moc. ex DC.) Greene** (*M. flagellaris* [Bong.] B.L. Robins. = var. *flagellaris*)
Small-leaved montia
Habitat/Range: Moist sites in the lowland and montane zones; common in S BC; N to SE AK and SW YT, E to MB and S to MT, ID, UT and CA.
Notes: Two intergrading taxa occur in BC:

1. Basal leaf blades lance-ovate to spatulate, usually less than 5 mm wide; the common phase in BC . . . . var. *parvifolia*
1. Basal leaf blades oval to orbicular, usually more than 5 mm wide; infrequent along the coast . . . . var. *flagellaris* (Bong.) C.L. Hitchc.

PORTULACA

Portulaca oleracea **L.**
Common purslane
Habitat/Range: Fields and waste places; rare in SW and SC BC; introduced from Eurasia.

TALINUM

Talinum sediforme **von Poellnitz** *(T. okanoganense* **English***)*
Okanogan fameflower or talinum
Habitat/Range: Dry, open rocky sites in the steppe vegetation and lower montane zones; rare in SC BC; S to N WA.

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APPENDIX

EXCLUDED SPECIES

DROSERACEAE

***Drosera intermedia* Hayne** The material cited by Scoggan (1978) appears to be *D. anglica*.

***Drosera linearis* Goldie** First reported by Boivin (1966-1967) but no BC specimens available for this more eastern species.

ELATINACEAE

***Elatine triandra* Schkuhr.** Cited by Scoggan (1978) but our material actually *E. rubella* (Mason 1956).

ELAEAGNACEAE

***Elaeagnus multiflora* Thunb.** This horticultural species was cited by Taylor and MacBryde (1977) but all collections examined during this study were from plantings.

ERICACEAE

***Oxycoccus macrocarpus* (Ait.) Pers.** (*Vaccinium macrocarpon* Ait.) Reported by Taylor and MacBryde (1977). Cultivated in SW BC -- not reported in natural conditions.

***Vaccinium uliginosum* ssp. *gaultherioides* (Bigel.) Young** (*V. uliginosum* ssp. *microphyllum* Lange, *V. gaultherioides* Bigel.) Hulten (1968) and Taylor & MacBryde (1977) noted this subspecies in BC. This seems unlikely considering the distribution of this taxon outlined in Young (1970).

EUPHORBIACEAE

***Euphorbia marginata* Pursh** The specimen cited from V by Scoggan (1978) was taken in a garden.

***Euphorbia vermiculata* Raf.** Reported by Wheeler (1941), Boivin (1966 - 1967), Taylor and MacBryde (1977) and Scoggan (1978) from a Parksville collection taken over 45 years ago.

FABACEAE

***Astragalus curvicarpus* (Skeld.) Macbr.** (*A. speirocarpus* A. Gray var. *falciformis* A. Gray) Cited by Henry (1915) but no BC material available.

***Astragalus drummondii* Hook.** Reported by Taylor and MacBryde (1977) but apparently not part of our flora.

***Astragalus flexuosus* (Dougl.) G. Don** Barneby (1964) first reported this species from Cranbrook (as an introduction) but no recent collections have been made.

***Astragalus lentiginosus* Dougl. ex Hook.** Reported by Taylor and MacBryde (1977) but our taxa is var. *salinus*.

Astragalus speirocarpus* A. Gray var. *falciformis* A. Gray = *A. curvicarpus

Astragalus trichopodus (Nutt.) Gray var. lonchus (Jones) Barn. (*A. leucopsis* [T.& G.] Torr. var. *lonchus* Jones) Introduced on ballast at Nanaimo in 1893 (Macoun 1894) but not collected since.

Caragana arborescens Lam. This species, often cultivated for hedges, may occur in garden dumpings but does not persist.

Cicer arietinum L. Cited by Taylor and MacBryde (1977) and Scoggan (1978), this garden escape does not persist in our region.

Cytisus monspessulanus L. This garden escape, reported for BC by Hitchcock *et al.* (1961) does not persist in our region.

Lathyrus pauciflorus Fern. Collections attributed to this species by Eastham (1947) are referrable to the *L. nevadensis* complex.

Lathyrus polyphyllus Nutt. The report for BC by Abrams (1944) has never been verified.

Lathyrus venosus Muhl. ex Willd. Reported by Boivin (1966-67) but no BC specimens seen. The SE AK collection was reidentified as *L. ochroleucus* (Welsh 1968).

Lotus parviflorus Desf. Cited by Taylor and MacBryde (1977) but no BC material seen.

Medicago orbicularis (L.) All. The 1887 (Nanaimo) and 1914 (Esquimalt) Macoun collections were from ballast dumps and no longer persist.

Pisum sativum L. The common garden pea, listed by Boivin (1966-1967) and Taylor and MacBryde (1977) does not persist in our region.

Teline monspessulana (L.) Koch This horticultural species, cited by Taylor and MacBryde (1977) does not persist in our area.

Trifolium facatum Lindl. Collected once in 1885 at Victoria (Scoggan 1978) but not reported since.

Trifolium gracilentum T.& G. The collection of this species, cited by Macoun (1886), has been reidentified as *T. bifidum* (Scoggan 1978).

Trifolium longipes Nutt. Reported by Macoun (1883) and taken up by Hitchcock *et al.* (1961) but no specimens available.

Trifolium macrocephalum (Pursh) Poir. This species of the W U.S., tentatively reported by Macoun (1883), does not reach our range.

Trifolium medium L. Reported by Henry (1915) but no material seen.

Trigonella caerulea (L.) Ser. This species, reported by Boivin (1966-1967), has been collected only once in BC.

Vicia lathyroides L. Collected by J.M. Macoun at Langford, Vancouver Island in 1913 (Scoggan 1978) but not collected since.

FAGACEAE

Castanea dentata (Marsh.) Borkh. Reports of this Eastern North American species (Taylor and MacBryde 1977) refer to horticultural plants in our region.

Quercus rubra L. All collections of this Eastern North American species, reported by Taylor and MacBryde (1977), refer to horticultural plantings.

FUMARIACEAE

***Adlumia fungosa* (Ait.) Greene** This rare garden escape, cited by Boivin (1966-1967) and Taylor and MacBryde (1977), has not been collected in recent years.

***Fumaria martinii* Clav.** Cited by Boivin (1966-1967) but no material seen.

GENTIANACEAE

***Frasera albicaulis* Dougl. ex Griseb. in Hook.** Cited by Hitchcock *et al.* (1959) and Taylor and MacBryde (1977) but no specimens seen from our region.

GERANIACEAE

***Erodium moschatum* (L.) L'Her. in Ait.** This species, cited by Eastham (1947) and Taylor and MacBryde (1977) from Esquimalt, has not been recollected since 1914.

***Geranium columbianum* L.** Cited by Taylor and MacBryde (1977) but no material seen.

***Geranium oreganum* Howell** The collections cited by Scoggan (1978) are based on misidentifications although there is a specimen at V collected in 1896 in Victoria.

GROSSULARIACEAE

***Ribes aureum* Pursh** An escaped ornamental - not established or naturalized.

***Ribes nigrum* L.** An escape from cultivation - not established or naturalized.

***Ribes sativum* (Reichb.) Syme** An escape from cultivation - not established or naturalized.

***Ribes watsonianum* Koehne** A herbarium specimen in DAO (from Monashee Mt., Cascades) is correctly determined as this species, but the collection data are imprecise and doubt exists as to the origin of the material.

HIPPOCASTANACEAE

***Aesculus hippocastanum* L.** This common horticultural species, cited by Taylor and MacBryde (1977), seldom, if ever, self-seeds in our region.

HYDROPHYLLACEAE

***Hydrophyllum menziesii* H. & A.** Reported by Henry (1915) and taken up by Taylor and MacBryde (1977) but no material seen.

***Phacelia heterophylla* Pursh** This species was cited by Taylor and MacBryde (1977) but all BC specimens examined were referrable to *P. hastata*.

***Phacelia tanacetifolia* Benth.** First reported by Groh (1944), this introduced Californian species was last collected in 1917.

JUGLANDACEAE

***Juglans ailanthifolia* Carr.** This horticultural species, cited by Taylor and MacBryde (1977), does not persist in our region.

LAMIACEAE

Mentha longifolia (L.) Huds. Established population recorded from Pemberton (Eastham 1947), but not collected recently.

Monarda citriodora Cerv. Cited in Ulke (1935), from near Windermere, but no specimen seen.

Salvia sylvestris L. Cited in Scoggan (1979), but probably refers to *S. nemorosa*.

Satureja sylvatica (Bromfield) Maly ssp. _ascendens_ (Jordan) Taylor & MacBryde Cited in Taylor & MacBryde (1977), but no specimens found.

Thymus pulegioides L. Cited in Scoggan (1979), but all recent specimens appear referrable to *Thymus serpyllum* L.

LENTIBULARIACEAE

Utricularia occidentalis A. Gray (= *U. ochroleuca* R. Hartm.) The report of this U.S. plant by Macoun (1913) and later by Henry (1915) was based on a specimen of *U. minor* (Ceska and Bell 1973).

LIMNANTHACEAE

Limnanthes douglasii R. Brown Reported by Taylor and MacBryde (1977), this garden escape does not persist in our region.

LINACEAE

Linum perenne L. ssp. _perenne_ This Eurasian taxon is a rare garden escape which does not persist in our area.

MALVACEAE

Abutilon theophrasti Medic. This Asiatic species was reported from a single collection at Lumby (Groh 1944) but has not been collected again.

Althaea rosea Cav. Cited by Scoggan (1978) and Taylor and MacBryde (1977), this species has been collected only once at Kamloops.

MORACEAE

Morus rubra L. This eastern species, cited by Taylor and MacBryde (1977), has not become naturalized in our region.

NYCTAGINACEAE

Abronia umbellata Lam. ssp. _acutalata_ (Stand.) Till. There are old records cited in Henry (1915), but now assumed to be extirpated from the province.

OLEACEAE

Syringa vulgaris L. A horticultural species, cited by Taylor and MacBryde (1977), known from only a few garden dumpings.

ONAGRACEAE

Camissonia alyssoides (H.& A.) Raven Cited in Jepson (1951) but no specimens seen.

Camissonia bistorta (Nutt.) Raven Cited in Scoggan (1979), based on a specimen in CAN collected on a ballast heap in Nanaimo by John Macoun in 1893.

Clarkia gracilis (Piper) Nels. & Macbr. Cited in Eastham (1947) but no specimens seen.

Clarkia quadrivulnera (Dougl.) Nels. & Macbr. Cited in Scoggan (1979), based on a specimen in CAN collected on a ballast heap in Nanaimo by John Macoun in 1887, but no recent specimens seen.

Oenothera nuttallii Sweet Cited in Taylor & MacBryde (1977), but all specimens have been re-determined as *O. pallida*.

OROBANCHACEAE

Orobanche grayana Beck (= *O. californica* C & S ssp. *grayana* [Beck] Heck.) The specimens cited by Boivin (1966-1967) and Scoggan (1979) from SW BC are actually *O. californica* ssp. *californica*.

OXALIDACEAE

Oxalis suksdorfii Trel. Reported by Taylor and MacBryde (1977) but no BC material known.

PAPAVERACEAE

Argemone mexicana L. This garden escape, cited by Taylor and MacBryde (1977), has not been collected in over 60 years.

Papaver radicatum Rottb. This name, used by Welsh (1974), Scoggan (1978) and others, has been misapplied to North American plants (Kriger 1975). The North American plants are usually part of the *P. lapponicum* complex.

Papaver rhoeas L. Reported by Taylor and MacBryde (1977) but not collected since 1935.

Rhomneya coulteri Harvey Cited by Taylor and MacBryde (1977) but no BC material known.

POLEMONIACEAE

Collomia tenella Gray Rydberg (1922) incorrectly assumed that this species of the western U.S. extended into B.C.

Gilia congesta Hook. This species of the western U.S., reported by Rydberg (1922), does not extend into B.C.

Linanthus pharnaceoides (Benth.) Greene Material of this species, cited by Macoun (1897), has been reidentified as *L. septrionalis* (Scoggan 1979).

Polemonium humile Willd. This name was apparently misapplied to specimens of *P. boreale* by Henry (1915).

POLYGALACEAE

Polygala vulgaris L. Cited by Eastham (1947) from Comox, this Eurasian species has not been recollected in 40 years.

POLYGONACEAE

Eriogonum umbellatum Torr. var. hausknechtii (Dammer) Jones Reported from BC by Hitchcock *et al.* (1964) but no material seen.

Fagopyrum tataricum (L.) Gaertn. Reported by Taylor and MacBryde (1977) but no material seen.

Polygonum erectum L. Cited by Taylor and MacBryde (1977) and Straley *et al.* (1985) but all specimens are based on misidentifications of *P. achoreum.*

Polygonum pensylvanicum L. (*Persicaria pensylvanica* [L.] Small) The Agassiz material reported by Scoggan (1978) was not located.

Polygonum perfoliatum L. Known only from a single roadside collection taken in 1954.

Polygonum phytolaccaefolium Meisn. ex Small (= *Aconogonum phytolaccaefolium* [Meisn. ex Small] Small ex Rydb.) The citation of this species for BC by Taylor and MacBryde (1977) is probably based on the Pacific Coast range alluded to by both Hitchcock *et al.* (1964) and Welsh (1974). No BC material has been located in this study and it is quite possible that the interpretation of this complex by Hulten (1968) is correct and explains the absence of the taxa from BC. Hulten (1968) recognized *Polygonum alaskanum* (Small) Wight ex Harshb. (*P. alpinum* All. ssp. *alaskanum* [Small] Welsh sensu Welsh [1974]) as occurring in AK, YT and NT and *P. phytolaccaefolium* as occurring south of the continental glaciation in the NW US.

Polygonum watsonii Small (= *P. polygaloides* Meiss. ssp. *confertiflorum* [Nutt. ex Piper] Hickman) Reports of this species from BC at CAN (Scoggan 1978) are based on misidentifications of *P. polygaloides* ssp. *kelloggii.*

Rheum rhabarbarum L. Cited (under the misapplied name *R. rhaponticum* L.) by Taylor and MacBryde (1977) and Scoggan (1978), this species sometimes escapes in garden dumpings. It usually does not persist but recent reports indicate it may now be established at Atlin.

Rumex fennicus Murb. (= *R. pseudonatronatus* Borbas) Cited by Boivin (1968-1969) from Davey Lake, BC and taken up by Taylor and MacBryde (1977) but no other collections known.

Rumex x pratensis Mert. & Koch Reported by Taylor and MacBryde (1977) but no material seen.

PORTULACACEAE

Claytonia saxosa Brand. The citation of a specimen at V by Taylor and MacBryde (1977) has recently been reidentified as *C. perfoliata.*

Talinum spinescens Torr. Collections of this species, reported by Henry (1915) and others, are actually *T. okanoganense.*

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